













The notice convening the meeting and the following report were read.—

Feb. 28.—During the past year Matthews' shaft has been sunk 23 fms., and is now 11 fms. below the 70 fm. level. There are about 3 fms. more to sink previous to continuing down to the next level; after which it will be driven through tin ground to the bottom plat, &c., in the 80 fm. level, and which will take about two months, and is continued by twelve men. The 70 fm. level has been driven some distance from the old shaft through good tin ground, and is still being driven by six men. At the end of the said shaft there have been driven 14 fms. east of the main shaft, through tinny ground; this level has also been driven by six men. We have one stop working in the back of this level by eight men, and intend setting another next month, as we have here a very high piece of pretty good tin ground standing. The 60 fm. level is driven 2½ fms. east of Matthews' shaft, through good tin ground, and is continued to be driven by six men. There are two stops working in the back of this level by twelve men; the end of them is at present producing good saving work for tin. The 50 fm. level was last driven 9 fms. east of Matthews' shaft 52 ft. or ¼ fl. while they were driving during the past year; 45 fms. of the same length have been brought in tin ground, which will work at a profit; this level will be continued by four men. There are two stops working in the back by twelve men, and we intend to set another stop at next setting day, as we have a high piece of tin ground to take away here, as will be seen on reference to the section. The 40 has been driven 44 fms. east of Matthews' shaft, out of which 23 fms. 2 ft. 4 in. have been driven suspended the past year, through coarse ground; the driving of this level is at present suspended until the ground being hard, and not rich for tin. There is one stop working in the back of this level by nine men in tin ground, which will produce tin at a profit. The back of this level will all be worked off before long.

The footway shaft has been cut down since making an engine and drawing shaft, from surface to the 60, and sunk 11 fms. below the 70, east of machine shaft, and from 35 fms. to 30 fms. east, to communicate with the 70 west of Matthews' shaft. This shaft has been sunk through 7 fms. of good tin ground; the remaining part has not been so good, in consequence of a slide, which has passed over







**CREE TOWN.**—The lode in the 26 east is still large and broken, but a part on the footwall, 13 in. wide, is producing some good stones of lead, mixed with copper and iron; the lode in the 26 west is 10 in. wide, with spots of copper throughout. There is no change in the 26 since my last report; the lode in the back of the 12 west is yielding about 2½ tons of ore per fathom. —M. WOODCOCK: Feb. 28.

**CROW HILL (IRELAND).**—All the bargains are much the same as when I last reported; but, in addition to the four bargains, I have, during the last fortnight, had four men clearing up an old place that was opened 17 years ago by a Mr. Woodcock. It is 4 fms. to the west of Coffey's winze, and 10 fms. east of Russell's shaft. After removing a depth of 9 ft. of rubbish, we came on the lode, which was composed of sulphur, copper, quartz, and a little lead. We have now stopped it 3 feet deeper, for about 6 ft. long, and I have pleasure in stating we have now for that length the best lode I ever saw in the mine; it is 2½ ft. wide, the greater part lead. But I expect to find it a shallow bunch; nevertheless it affords additional presumptive evidence that in prosecuting our explorations success will finally be our reward, and no energy shall be wanting on my part to bring about so desirable an object. —T. KIRK: Feb. 25.

**CURET UNITED.**—The lode in the 35 east is now producing about 2½ tons of lead per fathom. In the west end it is much the same, worth from 1 to 2 cwt. per fathom. No change in the 45 west to notice. The lode in the 35 east is producing a little lead, but not enough to value. The lode in the rise in the back of this level west is improving; it is about 1 ft. wide, composed of spar and mullite, with some good stones of lead; ground more favourable. The lode in the 46 east north is 1 ft. wide, producing occasional stones of lead. We are sinking the sump-wine in the bottom of the 46 fm. level south; the lode is 15 in. wide, and will now produce, for the length of the winze (9 feet), 3 tons of good lead ore per fathom. We have taken from the bottom of the said winze this morning a large stone of lead, weighing about 50 lbs., quite solid. The lode in winze in the bottom of the 46 north is looking very well, worth at present 18 cwt. of lead per fathom. —ARTHUR DOWNS: Feb. 28.

**DEVON AND COURTNEY.**—We have not taken down any of the lode in the 30 as yet, but from what we can see it is still of the same character as last taken down. The lode at the western end, in the 30, is gradually improving, the lode being about 2 ft. wide, spotted all through with copper ore. —T. BAWDEN: Feb. 28.

**DEVON BURRA BURRA.**—At the Burke, No. 1 south lode, in the 24 fathom level, going east, is improving in size and produce since last week. On the great north lode, the end going east is looking admirably; we have splendid cubes of copper in the lode, and every foot is full of black ore. There is every appearance of a course of ore not far off, and I believe before this month is out we shall have a course of ore in this end. The tin lode going east in the 24 fm. level is turning out good work, and still improving. —M. WHITEHEAD: Feb. 28.

**DEVON CONSOLS NORTH.**—I have again set the cross-cut to drive south by six men, 2 fms., or to cut the lode, which, according to our dialling, we expect to reach in less than a fathom. We have extended the cross-cut 4 fms. 6 in. during the past month, making altogether 13 fms. 3 in. from the engine-shaft. —H. WILLIAMS: Feb. 28.

**DEVON UNITED.**—The mullite pitch continues to look very well, and will turn out from 4 to 5 tons of mullite per fathom. I have increased our hands according to your instructions, and I trust we shall raise for the future 200 tons per month. We have sent to quarry 102 tons, and I hope by the latter end of the month we shall have the 200 tons according to promise. We have not made much progress this week at the engine-shaft, on account of a small breakage in the rods, but it is repaired, and the sinking resumed.

**DEVON WEST BEAM.**—Since last week's report, in driving the cross-cut south-west of the winze-shaft, at the adit level, we have intersected Brooks's lode, which is 1½ ft. wide, looking very promising, yielding a little tin, but not rich enough for saving; we, therefore, thought it advisable to suspend the driving, and put the men to drive a cross-cut north, opposite the one above named, to intersect the great iron lode, which we hope to do in driving about 9 ft. or 2 fms. We are still of opinion that this lode will make quantities of tin on or near the junction. We yesterday put two men to coast on the back of this lode, about 100 fms. west of the winze-shaft, but have not yet seen it. —M. STEPHENS: March 1.

**DUNSELY WHEEL PHOENIX.**—I have the pleasure to inform you that we have an improvement in every part of our operations on the lode in the back of the eastern adit. We have taken down the lode in the western stopes, on driving from shaft, about 13 fms. deep, and find it to be most excellent work for tin; the lode here is about 2 ft. wide. The eastern stopes in the same level are equally as good as the western stopes, and the lode is about the same size. We have also commenced driving the adit level, which is not more than 3 fms. before the stopes; we have taken down the lode here, and find it rich in tin—better than before seen. In cutting the pit at the bottom of the shaft to this level, we have descended a large piece of lode, which I cut into on Friday, and broke a good stone of tin. I shall be able to report more fully on this in my next. The shaft which we have sunk from surface on the course of the lode has given a back of about 28 fms., and by driving the adit westward we shall gain considerably more. As soon as the pit is finished I shall commence another stop, about 7 fms. up in the shaft, from the back of the adit, at the point where the rich stones of tin were broken which I brought to town with me. —J. SPANCO: Feb. 28.

**EAGLEBROOK.**—In the deep adit level we have communicated to the engine-shaft, and the men are employed in cutting a pit; in the course of a fortnight we shall continue the adit level on the course of the lode, which has been proved by three shafts to yield about 25 cwt. per fathom, on an average, for 80 fms. in length. We shall have the small water-wheel for pumping in the two western shafts at work in a few days, when we shall extend on the lode from each shaft at the depth of the adit level. In the western level the men are cutting down the sides, to give room for future operations. The engine-shaft, with the large water-wheel and crushing mill are nearly completed, and surface operations progressing as well as can be desired. —H. FRANCIS: Feb. 28.

**EAST GUNNIS LAKE JUNCTION.**—There is no alteration in any part of the mine since my report of the 9th inst. The lode in the bottom level continues to yield good working; it is a fine strong lode, about 3 ft. wide, with a very slight underlie, and composed of good yellow ore in a matrix of quartz and can, the latter mineral predominating, which is highly favourable. The ends in this level will be extended a little further from the shaft before we resume sinking. The lode in the western end, in the 35 fm. level, is 18 in. wide, yielding some very good ore, although not sufficient at present to pay for driving; but there is every reason to expect that it will shortly become more productive and profitable. In the eastern end, in that level, the lode is 3 ft. wide, containing good stones of ore, but not rich. We purpose rising against Redwin's shaft very shortly, and hope by doing so to lay open some extent of good profitable ground. We have about 30 tons of ore broken, which will be dressed and ready for sampling next month. —Feb. 28.

**EAST TAMAR CONSOLS.**—The 102 fm. level is being extended from Furze Hill shaft north and south on the course of the lode, which is 4 ft. wide, composed of quartz and fluor spar, with stones of ore occasionally. In the 90 east north the lode is 4 ft. wide, and worth 8 cwt. of ore per fathom, with every prospect of improving; the lode in the back of this level is yielding on an average 6 cwt. of ore per fathom. In the back of the 60 the stopes are producing 7 cwt. of ore per fathom. In the 56, north of Church-line shaft, the lode in the end is 4 ft. wide, very hard, and at present unproductive; the lode in the back of the 40 is 4 ft. wide, and at present unproductive. In the back of the 46 the stopes are yielding 7 cwt. of ore per fathom. In the 40, below adit from Gullett's shaft, the lode in the north end is 3 ft. wide, and worth 8 cwt. of ore per fathom; in the south end it is worth 9 cwt. per fathom. Both ends are easy for driving, and are laying open good profitable ore ground. We have two stopes working in the back of the 30, worth on an average 7 cwt. of ore per fathom. All our machinery is in good order, and the mine, I am happy to say, is looking better than for some time past. —Feb. 28.

**EAST WHEAL ARTHUR.**—We have continued to sink the engine-shaft; the lode has still a very promising appearance, being from 2 to 3 ft. wide, composed of rosen, peach, mullite, and portions of copper ore. The driving of the adit level east from the Tamar River has been continued; the lode is, I am glad to say, showing improvement in its report, it being 2 ft. wide, producing beautiful stones of ore, and from its present appearance I hope to report more favourably of it in my next. —ALEXANDER BARRETT: March 2.

**EAST WHEAL RUSSELL.**—We have no material alteration in any of the levels since last report. Hitchin's shaft is nearly down to the depth of 78 fms. from surface. The gossan is looking splendid at the present bottom of the shaft. We have weighed in from the tributaries 15 tons 13 cwt. of dry ore. The tributaries have given up their pitches for want of air, until the tunnel is communicated to the 45. Hitchin's shaft, which I expect will be in three months from this time. I am anxiously waiting to hear the result of the sample for gold of our gossan. Our engines are working well. —W. MERRILL: Feb. 28.

**EAST WHEAL ELIZABETH.**—The lode west of north cross-cut is larger, and more kindly. The lode is producing some good work. —W. DUBREY: March 1.

**FUSSEN MANOR.**—Our operations this week have been confined to extracting gossan from the east and west lodes, and gossan from the north and south lodes; likewise from the large north and south lodes, which we term the silver lode. We shall fill six barrels to-day from the three different lodes, containing 1200 lbs. weight in each, which will be forwarded to-morrow to Messrs. Rawlings and Watson, at St. Helens, to be tested, and should the result of this quantity prove as well as the small experiment by Borden's machine, I consider we have as good a mine as any in Devon. —WILLIAM HEATH: March 1.

**GAWTON UNITED.**—At our setting on Friday last the following bargains were taken:—The 24 to drive west by six men, stented 2 fms., at 5½, the lode in this level is 2½ ft. wide, worth 3 tons of ore per fathom. The 24 to drive east by four men, stented 2 fms., at 7½; the lode is 20 in. wide, composed of capels and stones of ore—a promising end. A cross-cut to drive south in the 24 by four men, stented 2 fms., at 7½. The 10 east to drive by four men, stented 4 fms., at 4½; the lode is 3 ft. wide,

composed of capels, spotted with mullite and ore. The deep adit level to drive east of the cross-course by four men, stented 2 fms., at 9½; the lode is 4 ft. wide, composed of spar, capels, mullite, and branches of ore, producing saving work. The shallow adit to drive east by four men, 3 fms. stent, at 5½; the lode is very large, and of much the same appearance as last reported. We are also busy at surface, collaring up shafts, and preparing ground for dressing floors. —H. HODGKINS: March 1.

**GURN LEAD.**—The lode in the adit end is looking more favourable for lead ore than I have seen it for some time; on the south part of the lode there is a branch of ore 17 ft. 6 in. in breadth, with good spots of ore in the spar; the lode altogether is 4½ ft. wide, and very strong with water coming from it, the men this month have driven 11 m. 2 ft. 9 in. At Delane's cross-cut the ground is just the same as last reported, and there is also great abundance of water coming from the present end; a strong indication that we are not far from the lode. —R. MAYNARD: Feb. 25.

**GREAT CAMBRIAN MINING AND QUARRYING COMPANY.**—The manager, in his report this week, states—"The level on No. 1 lode is pushing forward satisfactorily; the lode is 6 ft. wide, composed principally of decomposed quartz, mullite, and a mixture of copper ore. No. 2 lode is daily improving; it is 4 ft. wide, spotted throughout with lead ore. The tunnel to No. 3 lode is much the same as last reported, but the stopes are rather improved than otherwise, particularly the western end. No. 4 lode is improving both in size and quality of the ore as they progress with sinking the shaft. The open cut for a tunnel to this lode at a greater depth is rapidly pushing forward. The tunnel to No. 5 lode has yet to be driven upwards of 2 fms. ere it intersects it. The water-course is completed to the wheel-pit, and all the other surface work is drawing towards completion. Messrs. Thomas and De Winton's workmen have commenced fitting up the water-wheel, so that I anticipate having the crushers at work in a few weeks. No material change has taken place at Llysau since last reported."

Messrs. Thomas and De Winton, the contractors for the machinery, writes—"You will be glad to hear we are proceeding with your machinery in a very satisfactory manner; the three large girders are cast, &c. We were very sorry to find that the timber for the wheel-pit is not expected till Saturday. Our men appear very much disappointed at the delay, which is certainly most unfortunate, and particularly inconvenient to us. We have sent one complete set of drawings to your manager, showing the exact arrangement of the girders and buildings for both sides of the wheel-pit."

**GREAT ONSLONG CONSOLS.**—The stopes over the 45, west of Bennett's shaft, continue to yield a fair quantity of ore. No. 1 winze, below the 45, west of Bennett's shaft, is improving, and is worth at present 5½ per fathom for mullite, and 3½ per fathom for ore—No. 3 winze, west of Bennett's shaft, and below the same level, is being sunk by the side of the lode, in favourable ground, price 5½ per fathom. No. 3 winze below the 45, west of engine-shaft, is yielding 8 tons of mullite per fathom. In the 60, east of engine-shaft, there is no change to notice. The engine-shaft is being sunk by the side of the lode, and is producing good stones of ore, from branches dropping into the lode. The stopes over the 60 are yielding 1 ton of ore and 5 tons of mullite per fathom. Bennett's shaft continues to improve for ore. We have 40 tons of ore dressed, which will be forthwith sent to the wharf and sampled. —GEORGE RICHARD: March 1.

**GREAT TRIGUNE CONSOLS.**—Carke's Shaft: Having sunk sufficiently deep under the 20 fm. level for certainty, we now intend to drive a few feet east to lengthen the pit, so as to contain 100 kibbles of deads for the horse-wheel to draw to surface. The lode in the bottom of this shaft is still of a promising nature, and the ground favourable for sinking. We shall be able to sink the shaft at 100, or 120, per fathom. —Hobler's shaft: The lode here is 8 ft. wide, with two well-defined walls, and a soft priam on the footwall; it completely masters the rock, and is actually one of the most promising lodes I ever saw opened in the neighbourhood for tin. Looking at its present appearance, one would imagine it never could fail from making masses of tin at no great depth from where we are now opened.

**GREAT WHEAL BADDERN.**—The lode in the 40 fm. level is 15 in. wide, producing some good work for lead. The lode in the 30 fm. level is 1 ft. wide, but not rich at present. The lode in the 20 is 1 ft. wide, turning out stones of lead. The stopes in the bottom of the 30 are looking well, and in future we shall be able to work them regularly. We intend sampling tin-stuff on Friday next, and shall have a small batch of tin to-morrow ready for the smelting-house. The new engine is in full work, and in a day or two we shall get the water all right. —JOHN ROGERS: Feb. 28.

**GREAT WHEAL HUGO.**—The lode opened on at surface, in the back, shows its underlie to be less than was thought, and consequently the cross-cut level, now driving towards the lode, will be a longer one; there may be yet about 4 or 5 more fms. to drive to cut the lode, although the present end is full of cross branches of most beautiful spar, intermixed throughout with a good deal of mullite, altogether of the most congenial character for lead. I have only again to repeat what I have so often said, and that is, that I was never so confident about cutting a good lode in all my life. —A. BARRETT: March 1.

**GWYNLIFION LEAD.**—We are now down 8 fms. under adit, and the water is increasing very much; the ground also is a little harder, and the ore not looking quite so well; I hope we shall soon have a change in the ground, as it will take a long time to finish the sink to the 11 under adit. In the deep adit the ground is still very hard; the other parts of the mine are much the same. —H. RAWSON: Feb. 28.

**HALAMANNING AND CROFT GOITAL.**—The mines are looking well. The number of tributaries are increased, that of the new lode has been taken at 11, 11d. In 12. We sampled on Tuesday, 215 tons of ore, and the quality is superior to the last lot sold. These mines will become dividend-paying ones, and lastingly good. —C. PARRY: Feb. 28.

**HAWKMOOR.**—The lode in the 30 fm. level east is getting more loose, producing good ore work, and increasing in size, with large nuggets, and looking very kindly. At the old miners' shaft, the ground is a little improved in the last week; no lode taken down since last report. Graham's engine-shaft is sunk 10 fms. 4 ft. below the 30 fm. level, and we intend sinking 6 m. more right away, in order to cut eastern pit low enough to take all the water we possibly can into this eastern from the 40, which will materially assist the progress in sinking the said shaft towards the junction. The lode in the 30 fm. level west continues large, but not productive; the lode in the 20 fm. level regular in its bearing and underlie. In the 10 fm. level east, towards the eastern shaft, we have cleared the level to end, and the men are progressing favourably in driving; the present end not quite clear of all the limbs of the great cross-course. —J. KERRIS: J. RICHARDS: Feb. 27.

**HENNOCK.**—The ground in both ends in the 60 north and south still remains good for driving by the side of the lode; I intend cutting into the lode at the end of this week. The lode in the winze below the 50 is about 2½ ft. wide, producing occasionally stones of lead. We have secured the 40, and commenced putting up a rise against the 30, in easy ground, from being under the south winze-shaft; when under we shall commence rising against it as fast as possible, and to sink the shaft at the same time, to effect a space, as a communications to the eastern part, in the adit level, south from south winze-shaft, and equally as cheering as that of last week, splendid gossan with some stones of lead coming from this part; this speaks well for a deeper level. The shaft is already 13 fms. below the adit, and I intend driving a 15 fathom level as soon as the shaft is holed. Our machinery is working well. —H. RICHARD: Feb. 27.

**HILL BRIDGE CONSOLS.**—We have now six heads of stamp-work very satisfactory, and the tinstuff is equally good as last reported. I hope in my next report to be able to state what quantity of tin 100 kibbles will produce. The stopes at Asoley's shaft is producing large quantities of fair work for tin. The small branches left by the ancients appear to be dipping into the lode, and even those produce good work. —J. SPANCO: Feb. 28.

**HINGTON DOWNS.**—At Morris's shaft no lode has been taken down; the ground still troublesome. The lode in the 75, driving east from Doidge's winze, is improving since last report; it is worth from 3 to 6 tons of ore per fathom; in the 75, driving west, the lode is worth about 9 tons of ore per fathom; the ground in this end is somewhat tight. Knight's shaft, sinking below the 65, has been sunk about 6 ft. during the past week, the lode in which is worth about 7½ per fathom; this winze is again suspended on account of water; the 65 end is much the same as last reported. The stopes throughout the mine continue without alteration. The engine is being erected with all possible speed, and the cylinder will be placed upon its bed to-day. We calculate on sampling, next Friday, about 205 tons of ore, worth about the same as last month's parcel. —W. RICHARDS: March 1.

**HOPE VALLEY.**—We are progressing favourably in making every necessary preparation for sinking the engine-shaft below the 35 fm. level. The lode in the 35 fm. level, driving south, is 1 ft. 6 in. wide, composed of congealed spar, spotted with lead ore; the stopes in the back of this level will produce 8 cwt. of lead ore per fathom. The lode in the 30 fm. level, driving south, is 1 ft. 6 in. wide, composed of congealed spar, spotted with lead ore per fathom. The stopes in the back of the 25 fm. level, on the western part, will produce 50 cwt. of lead ore per fathom. The lode in the winze sinking below the 23 fathom level will produce 8 cwt. of lead ore per fathom. The stopes in the back of this level will yield 10 cwt. of lead ore per fathom. The lode in the 11 fm. level, driving south on the western part, will produce 15 cwt. of lead ore per fathom. The stopes in the bottom of this level will yield 1 ton of lead ore per fathom. The stopes in the back of the 11 fathom level will yield 12 cwt. of lead ore per fathom. —W. BARRETT: March 1.

**IRISH CONSOLS.**—In consequence of the water being so powerful in the trial shaft, we have been obliged to suspend operations in sinking. The men are employed in driving north to intersect the Champion lode, which I expect will be done in driving 9 ft. I may add that, some trials have been made on the lode in the 20, which I may say, is a stronger or more promising lode than can be seen. I am, therefore, more fully convinced than ever that the results in depth will be highly prosperous. The pit is cut and timbered in a most substantial manner in the adit level new shaft and Collier's adit; and the men are driving west on the south or flookan part, which is 4 ft. wide. The lode is standing to the north of the flookan; and in my opinion it is better to extend west on the flookan, and cut through the lode at an interval of every 10 fms., besides the level would be too wide to carry the lode and flookan together. I expect the new shaft on the lode will be set to sink on Saturday next, our setting day. There is no change in the cross-cut south from Collier's adit. There are three miners employed in exploring for a proper position to sink a shaft at the point of junction of the great cross-course and champion lode. A great many highly-mineralised detached stones, containing copper and mullite, have been found in this neighbourhood, which strongly indicates a good discovery having been made at this spot. —H. THOMAS: Feb. 28.

**KESWICK.**—At the Bradley Mine, the lode is rather poorer, worth about 5 cwt. to the fm., the ground being very hard. At Stoneycroft, the lode in the 20 is yielding stones of ore; the rise in this level is worth 5 cwt. of ore per fathom. At the Barrow Mine, the lode in Wilkinson's level is worth 12 cwt. of ore per fathom. The lode in the middle level tribute pit is worth 6 cwt. of ore per fathom, middle level 5 cwt., and the middle level 10 cwt. of ore per fathom. At Thornthwaite Mine, the lode in the 37 is worth 10 cwt. of ore per fathom. The stopes in this level will produce 20 cwt. of ore per fathom. —R. B. SHEPHERD: Feb. 28.

**KILBRICKEN.**—In the 30 cross-cut, north of new engine-shaft, we have found some lead ore, but not in great quantities. In the 30, driving east of the same shaft, we have cut a branch of the lode, containing spar, lead, and blende, and the ground is much improved for exploring; its present value being for blende, about 5½ per fathom. The stopes in the back of this level is worth about 50½ per fathom for lead, and about 12½ for blende. The stopes in the bottom of the 22, south of Faby's winze, is worth for lead about 30½ per fathom, and for blende about 15½ per fathom. The stopes in the back of the 20 north will produce at present about 5½ worth of lead per fathom. There is a slight improvement in the 20, east of old shaft, but the end is not yet set for March driving. —J. PAUL: Feb. 27.

**KIRKDRIBRIGHTSHIRE.**—The lode in the 110 end, east of Gilpin's, is about 3 ft. wide, with good spots of lead ore on the south side. In the west end the lode is large, but unproductive. The 80 end west is also without lead at present. —R. WHITE: Feb. 28.

**LAMERTON UNITED.**—The lode at our engine-shaft is much improved, and looking still better as we get deeper, being a strong, masterly composed of spar, peach, priam, with large quantities of mullite, and spots of copper ore; altogether a

very great improvement, and, as before stated, the best indication which could be had that this will prove a productive lode in depth. In our adit level the lode has been somewhat disturbed by a slide which came in from the north, but which we have gone through, and the lode improving every foot we drive, yielding more mullite, and again taking its regular course. We are also ready with the wheel-pit, and I hope to see Mr. Knight to-morrow, when I shall request him to proceed with the erection of the wheel immediately. We are also progressing with the other surface operations as fast as circumstances will permit. —JOHN LUXE: Feb. 28.

**LANGFORD AND BARING.**—The lode in the 20 east still maintains its size and character, worth 2 cwt. of silver-lead ore per fathom; the stopes in the 15, east of Hancock's winze, are yielding about 3 cwt. of silver-lead ore per fathom, and some saving work for copper. The stopes in the back of the 10 are worth 15 cwt. of copper per fathom; the tributaries in this level are also working with spirit, and getting fair wages. We have discovered the Langford lode, on which Baring set since my last report, about 10 fms. north of its regular course, but in rather a disordered state. I have taken off two of the men who were engaged expediting, and put them to clear up a pit that was sunk some time since on the Old Harrowbarrow lode, which lode is south of Langford lode, underlying north; hoping, as the grass water is less decreasing, we shall be able to sink on the course of that lode, which is of a very promising appearance. We hoped to be prepared for sampling our parcel of lead and silver on Saturday, the 4th inst., which would have been some days earlier, but having had occasion to prepare the winze before we could get it all to surface we were hindered some days. —W. KIRBY: March 1.

**LEEDS TOWN CONSOLS.**—Our sumpmen are engaged in cutting a pit in the 20 fm. level. We expect we shall cut the great tin lode in this level, west of the flat-rod shaft the ground still continues hard; we are using cast-steel barres, working through more easily, and expect to get through the floor of spar shortly. The lode in the 10 fm. level east is 1 ft. wide, and still poor. In the 10 fm. level west the lode is 4 ft. wide, with large rocks of tin, and expecting every stop to be more settled, and still further improved. In the adit level west the lode is 2 ft. wide, with saving work. In the Blinner Wood old mine the water keeps sinking as we clear, and we hope it will continue doing so, to enable us without difficulty to hole to the old workings. Before sinking here any further, I propose putting the sumpmen to clear out the lode, and drive its value; also to put in barres and cisterns, and to fix the plunger-lift. —FRANK PASCOE: Feb. 28.

**LOVEDEN UNITED.**—The lode in the 10 fm. level east is 5 ft. wide, producing from 12 to 15 cwt. of lead ore per fathom. A stopes in the back of this level, west of shaft, will produce 8 cwt. of lead ore per fathom. The lode in Pen-y-bank shaft still continues its qualities, yielding 2 tons of lead ore per fathom. The winze sinking under the adit level will produce 1 ton of lead per fathom; the stopes in the back of this level will produce ½ ton per fathom. We shipped our 20 tons of lead yesterday. —S. TRINITY: March 1.

**MOLLAND.**—In the 62 east the men have during part of the week been engaged in repairing the level which had been injured, in consequence of a large piece of ground having come off to a floor and fallen from the back of the level; the lode in the end at present is small, and in consequence is not so productive as last week. The lode in the 52 east is 2 ft. wide, and worth 2½ tons of ore per fathom. The lode in the 52 east is 2 ft. wide, and worth 2½ tons of ore per fathom; two men are still engaged in repairing this level, and the lode in the 42 will turn out 1 ton of ore per fathom. —THOMAS BENNETT: March 1.

**MOUNTS BAY CONSOLS.**—The engine-shaft has been sunk in the past week 3½ fms.—ground favourable for sinking. The north cross-cut has been driven 4 ft. 6 in., much the same as last reported; ditto south, we have this day reached the north wall of the lode, but cannot say anything of its value, as the ground is not sufficiently square to cut through the lode. —J. RICHARDS: Feb. 28.

**NANTEOS AND PENRHILL.**—The lode in the 46 fm. level, west of Penrhill engine-shaft, is improved during the past week, yielding on an average from 5 to 6 cwt. of ore per fathom, and has a promising appearance; the lode in this level east has also a promising appearance. The lode in the 36, east of ditto, is looking much better during the last 6 ft. in driving, and will yield at present from 20 to 25 cwt. of ore per fathom. The stopes in this level, 20 fms. east of the shaft, are also improved, yielding from 8 to 10 cwt. of ore per fathom, and looking promising. At Taylor's, the lode in the 46 west is 7 or 8 ft. wide, composed of quartz, blende, mullite, and much of the bonate of lime, intermixed with veins of lead ore. As yet we have not (for want of hands) been able to set the 50 cross-cut south, nor the winze below the 30 fm. level of shaft. The Eystun deep adit level is without alteration since last reported. By the end of this week we shall have 10 tons of ore cleaned. —MICHAEL BARRETT: Feb. 28.

**NORTH BASSET.**—At the new shaft, sinking below the 102 fm. level, the lode is 3 ft. wide, producing yellow ore throughout. In the 102 fm. level, driving west of the new shaft, the lode is 2½ ft. wide, producing 3 tons of ore per fathom, worth 10½ per ton. In the winze sinking below the 92 fm. level, the lode is 3 ft. wide, producing 1 ton of ore per fathom, worth 8½ per ton. In the winze sinking below the 82 fm. level, the lode is 2 ft. wide, producing stones of yellow ore. In the rise in the back of the 92 fm. level the lode is 2 ft. wide, producing 2 tons of ore per fathom, worth 8½ per ton. In the 82 fm. level the lode is 1 ft. wide, producing grey ore throughout. There is alteration to notice in any other part of the mine. Our sampling on Wednesday next will be about 230 tons. —THOMAS GLANVILLE: Feb. 25.

**NORTH BULLER.**—The shaft on King's lode is now sunk 6½ fathoms under the 23 fm. level, sinking by nine men, at 20½ per fathom; the lode is 15 in. wide, yielding rich stones of copper ore, and having a very promising appearance. The 23 fm. level is driven west of King's shaft 9 fms., driving by four men, at 7½ per fathom; the lode is 20 in. wide, composed of quartz, priam, and rich stones of copper ore. The 12 fm. level is driven west of King's shaft, by four men, at 6½ per fathom; the lode is 19 inches wide, and improving going west, with good stones of ore. —S. COADE: Feb. 25.

**NORTH DOWNS.**—It gives me pleasure to report to you that the lode in the 30 east is 3 ft. wide, and although the bottom of the end is at present poor, a course of ore has made its appearance in the back, and appears to be dipping easterly, worth at least 30½ per fathom. This is a good omen for North Downs east part. In consequence of a large quantity of water issuing from the lode, we have set to drive 9 ft. at 9½ per fathom, 6 ft. in length—extended last month 3 fms. 3 ft. 9 in. The lode in the winze in the 90, to prove the dip of the civan and of the influence of the lode previously to resume driving the 100, is about 1 foot wide, and will produce 1½ tons of ore per fathom, set to sink 10 ft. long, at 11½, for 6 ft. in depth. The bottom pitch we have set at 4½, to eight men, and the two pitches at 3½ and 6½. In 17, by six men each. The other pitches are set from 10s to 12s. —J. PRINCE: Feb. 25.

**NORTH TOWY.**—The lode in the deep adit continues just as last reported. The stopes in the back of the adit are yielding a little saving work. Last setting-day we suspended all operations in the shallow adit, but finding a large stream of water issuing from the hanging wall of the lode then, I put two men to drive eastward, and having driven 4 or 5 ft., they have intersected another part of the lode, from which they have broken some very good work, but as it is not yet cut through I cannot state its value. —W. H. KIRBY: Feb. 28.

**NORTH WHEAL ROBERT.**—We have not taken down any lode in the rise in the back of the 32. The 12, driving west, is at present poor, apparently in disordered ground. The stopes in the back of this level are looking much better, full 2 fms. of good quality ore per fathom. We have an improvement in the 30; driving west to the end will produce 1 ton of good quality ore per fathom. The pitches are yielding fair quality work. The trial shaft on the western ground is now being sunk nearly 10 fms. from surface, and I intend to commence driving to intersect the lodes at the beginning of another week. —A. PAVON: March 1.

**OLD TREWETHEW CONSOLS.**—We are still busy in the engine-shaft, in order to enable us to drop the lift to the bottom of the mine. The 27 fm. level is stopped away for a long distance, but we have not seen the end, on account of the water not being quite forked. The stopes in the backs of the 27 fm. level are looking very well. We are breaking ore, and have risen a quantity to surface, and have a great deal more broken, which will also be at ore or two in a day or two. The lode in the back of the 20 fm. level is greatly improved, producing a fair quantity of ore. The lode in the 20 fm. level is also improved, producing a fair quantity of ore. We are now breaking good ore in two other places, from the bottom of the same level. We have not been able yet to work on the branch where the large stone of antimony was broken from, as it would interfere with our working in the shaft; but in the course of the ensuing week we expect to put men to work on it, when a large quantity of ore will be raised. We are breaking a quantity of very good mullite from Wheel Thomas adit, and the end is looking very well. We are busy in clearing the deep adit in Wheel Rose Antimony Mine, opposite to the Old Trewethew, for the purpose of connecting it with the eastern part, by means of a new engine, by means of wire-rope or flat-roads, on rollers, the power being sufficiently capable of working both mines at the same time. We are now dressing ore for market, and the whole of the dressing floors will be completed in a short time. The carpenters and sawyers have been busy in cutting timber for jiggling hatches, ties, &c., for dressing purposes. The masons are getting on with the powder-house, which is nearly completed. With this report we have forwarded to the committee a sketch of the workings of the mine. —R. VERRAN: S. KENT: March 1.

**PEMBROKE AND EAST CRINITS.**—I have nothing new to state, with the exception of cutting the wall of the lode in the 122 fm. level. We have an immense stream of water issuing from it. We have also cut the lode in the western cross-cut in the 80 fm. level, west of Keizer's; we have not been able to cut through it, but we have seen it, and it is very good. I shall be able to say more about these things in a few days, when I hope to give you some good news. —JOHN LYLE: Feb. 28.

**PENHAUGER.**—The lode in the adit end is 18 inches wide, composed of very good gossan and fine stones of lead. —JOSEPH KIRBY: Feb. 28.

**PENPOMPREN.**—The winze-shaft is down below 14 and 15 fms.; the lode is 1½ ft. wide, containing some small stones of lead, intermixed with kilias, blende, and spar. The lode in the rise in the back of the adit level is 1 foot wide, and at times producing good stones of lead ore. I hope shortly to communicate this rise with the shaft. —S. TRINITY: March 1.

**PENTIRE GLAZE.**—The stopes south of Pope's winze, under the 22, is rather improved since last report. The stopes north of Bennett's winze under the 22, is also improved, and the lead is dipping north. The north stopes above the 22 is looking better for lead than for some weeks past. The stopes will also yield 1







At the West Granada (or Veragua) Gold and Silver Mining Company annual meeting, on Tuesday (Mr. G. Y. Braine in the chair), the accounts showed a balance at the bankers of 666, 6s. 8d. The directors and friends had agreed to take up 13,000l. worth of the debentures, on the condition that the remaining 2000l. was subscribed by the other shareholders. A small machine had been ordered from Berdan, which it was expected would return sufficient to pay the ordinary annual interest. The report and accounts were unanimously adopted, and a resolution passed.







## Notices to Correspondents.

**COST-BOOK SYSTEM.**—Sir: A mine that had been divided into 2048 shares having tired the shareholders by repeated calls, the committee recommended that the property should be divided into 10,000 shares of 1s. each, paid-up, reserving to the old proprietors 4096, in consideration of work done, &c. They began to work with the understanding that no further calls should be made, but that the 2048 shares should supply funds for future operations. After having gone on for eight months without selling the new shares, and all the time running in debt, they now fall back upon the old shareholders, in 2048 shares, and make a call upon them to liquidate the debt incurred by the company, after having induced the shareholders to pay up calls and purchase forfeited shares, so as to commence with clear hands. Sir, can these things be legally done?—A. SUFFERS, *Woolwich, March 1.*

**J. V. (Rhyll).**—While the present unsettled state of affairs continues, coupled with the excitement consequent on the discovery of gold in England, it would be difficult to find any parties well acquainted with mining who would be willing to join in any speculations in quarries. Unfortunately the slate does not stand A 1 with the public; and if it was stated that copper, lead, sulphur, antimony, and ironstone, could be found in proximity to each other, so that they could be worked to a profit, the more cautious would be deterred from embarking in such a speculation: they would either consider it a delusive scheme, or, if they attached any credence to the statements put forth, they would consider it an enterprise of too great magnitude to undertake. The most prudent course would be to obtain some party, with moderate means, to open the most desirable locality, and then bring the subject before the public, when a favourable opportunity should occur.

**G. G. (Lincoln).**—The last accounts said that they had commenced crushing; we do not, however, attach much faith to that information, as now they have machinery at work, until the funds are exhausted they will find excuses for the nonce.

**RENNET MINING COMPANY.**—Sir: I observe, in last Saturday's Journal, this company's shares are quoted—last 1/2, present 1 1/4. Now, whoever has furnished to you such prices must have been aware that they were incorrect: the price in London last week was par to 1/2 premium (5s. paid); and I enclose you a letter, dated the 16th Feb., which I received from a London broker, in which he offers shares at 6s. 3d. net; the same prices also rule in this city. In the *Times* of Saturday you will observe that Eberish shares are advertised for "anything under par"—this is a fair criterion of their real value.—A. SHARROLDEN, *Manchester, Feb. 28.*

**"Novice" (Birmingham).**—The standard not being generally understood, or the rule whereby the price of ore of a given produce, sold at a certain standard, can be ascertained, as well as the standard at which the ore sells, the produce and price of which are given, the present remarks are so simple they will be easily understood. Presuming the produce of copper ore to be by assay 8 1/2, and the standard 94d. 8s., multiply the given standard by the produce, thus—94d. 8s. x 8 1/2 = 826 1/2, and which divided by 100 gives 8s. 2d. as the price per ton, from which deduct returning charges, 2s. 15s., leaving 5s. 10s. 3d. as the actual price realised. To determine the standard at which ore sells, the price being 5s. 17s. 6d. per ton, and the produce 9 1/2, add to the price, 5s. 17s. 6d., the returning charges 2s. 15s., which give a total 8s. 12s. 6d.; then, as 9 1/2 x 8s. 12s. 6d. = 100, to the required standard of 93d. 4s. 10d.

**PENBROKE AND EAST CERNIS MINES.**—We were unable to give a more detailed report of the last meeting. Mr. Smith's fear of publicity at that occasion, however, was unnecessary, as the proceedings, we are informed, passed off quietly.

**"A Victim" (Russell-street).**—So long as the more respectable mining adventurers and brokers countenance these impostors by dealing with them in any shape or way, or allowing them to congregate about their places of business, knaves will flourish. The merest tyro in mining would have known from the antecedents what was to be expected, and the reckless course he pursued was known to all but his dupes. The career of this man perfectly proves that there should be some recognised place of business, where the transactions could be registered. Without doubt, as soon as the excitement is lulled, he will be seen pursuing his nefarious avocations.

**PROCKTER UNITED MINES.**—Having observed, in your last Number, a note signed "Inquirer," respecting the union of the Trewane Mine to that of Wheal Prockter, I write in reply to say, that the promoters of the Wheal Prockter have very liberally made a free gift of Trewane sett to their partners, by which means they have altogether one of the most extensive lead mines in the county, and with the prospects of a most cheering character.—A. SHARROLDEN, *St. Columb, March 1.*

**T. M. (Paddington).**—Before the transfer is executed, it is not necessary to pay for the shares in the mines strictly working under the Cost-book System it is not customary to issue scrip certificates payable to bearer. Later, in some mines it has been adopted; and it is the custom with all the gold mining companies, though on what defined principle they conduct their business it is difficult to state. The latter end of this month the Quartz Rock Company hold their annual meeting; whether by that period they will have made returns remains to be seen: the directors are, we believe, in anticipation of remittances from the scene of operations.

**G. W. (Rotherham).**—No original allottee is bona fide proprietor of his shares until he has signed the Deed of Settlement, in companies so constituted. Our correspondent must himself judge of the eligibility of the investment. We never recommend any particular undertaking.

**GRANT WHEAL VOR MINES.**—"An Old Subscriber" (Newton Abbott).—The quantity of ore sold in January produced 1190l., and the amount for February is estimated at the same sum. It was expected a much larger quantity would have been obtained last month, but an accident happened to the machinery, which stopped 24 of the stamps' heads for above a week.

**"Mechanics" (Birmingham).**—The first steam-engine erected in Cornwall, which has been set to work in 1712 or 1713, at Huel Vor, a tin mine, in Breage. Whether this was Savary's or Newcomen's is doubtful; but it was, in all probability, Newcomen's, whose engine was brought into use in 1712, and from that period became generally employed, and has since been known under the name of the old atmospheric engine. The second engine was at Huel Fortune, in Ludgvan, in 1720.

**O. N. (Hamburg).**—For the present, we do not anticipate there will be any difficulty in obtaining English coals for the Elbe Copper Works. The Alten Company are, however, in a different predicament, as the Sunderland vessels will not, in the present crisis of affairs, proceed to Humberford; in addition to this, the increased freight would be too heavy an expense. It has been mooted that the ores should be sent home in Norwegian bottoms, which should carry, as a return freight, coals to Kaafjord.

**UNITED MEXICAN MINING COMPANY.**—Our correspondent is perfectly correct with regard to the statement of Mr. Phillips, which was quoted in the directors' report, having been transferred from the *Mining Journal* of the 31st Dec. It is not for us, however, to complain of any want of courtesy on the part of the board in that respect, although, perhaps, our correspondent is right in his opinion that, for the satisfaction of the shareholders who were not present (and in justice, we think, to Mr. Phillips), the source from whence such statement was obtained might have been acknowledged, without the reputation of the company sustaining any injury.

**"Miner" (Cambridge).**—Sulphate of iron in its native state in most cases is rare: it is generally produced by the decomposition of other minerals, particularly iron pyrites. It is found dissolved in the waters of several mines. It occurs in the Rammelsberg Mine, near Goslar, in the Harz; at Schwarzenberg in Saxony; and at Semmeltz in Hungary; also in aluminous slate at Harlet, near Paisley, and in New England, where it forms crusts upon the surfaces of such mica-slate rocks as happen to abound in iron pyrites.

**"A Mining Agent" (Manchester).**—However well-grounded the assertions may be, the publication of such a communication would be libellous; it is not at all times that truth can be told safely. Directly or indirectly, we have no connection with the several mining companies which are being daily ushered into public notice. The quotations we receive from authorised parties, who, it is presumed, are respectable men. Our object, as we state each week, is to endeavour to make the Share List as correct as possible. We have repeatedly called upon our correspondents to assist us in our efforts; but until there is some recognised mart where transactions are registered, and which has met with but little sympathy whenever it has been mooted, the merest tyro in mining must see, with a wish to do justice to all parties, how difficult and onerous is the task we have undertaken. We do not, nor cannot, authenticate any statement which is not on the Stock Exchange; but we try to approximate as near as possible. We regret that our correspondent's letter was not couched in a more temperate style. He will see, where no means of obtaining in every case legitimate and authorised information, how impossible it would be to verify the value of shares in each mine, in some of which transactions do not, in several instances, take place for months together.

**"A Novice in Mining Matters."**—If the party from whom the license was obtained had power to grant a lease, then decidedly a claim can be established for the value of machinery erected as well as for work done; but as the property is generally held under the lord of the manor, it would be well, previous to entering into litigation, to enquire whether he were cognisant of the fact under which the mine was worked.

**LUDGVAN LEASE TIN MINES.**—Sir: In reply to "An Observer," in last week's Journal, this sett comprises the piece of ground immediately west of St. Ives Consols Mine, situated between the two roads leading to Trevalgan, extending west as far as the lane leading to Trevalgan, and held from the Duke of Devonshire. A London company is formed for the purpose of developing the mineral property, which will be prosecuted with spirit. The offices of the company are at 114, Bishopsgate-street.—A. SHARROLDEN, *London, March 1.*

**"A Miner" (Swansea).**—Our correspondent falls into the too common error of making a public journal the vehicle for a personal attack. We must admit that we cannot deduce the inference he draws from Mr. Ennor's communication, that, with the exception of a few of his own pupils, none are capable of becoming miners but those who are brought up in his school. It appears to us that Mr. Ennor advocates the use of more extended education; to the diffusion of this attention has now been practically drawn, and the want of it long and severely felt in all our mining districts; and it is hoped that, now that the impulse is given, it will not flag, either from the want of means, or the indisposition to support it by those of which we are in the meantime, we do not infer that we give our adhesion to all the views and theories which Mr. Ennor has propounded.

**GOLD AMALGAMATION.**—In our last week's Journal we published a practical letter on this subject from Captain John Dalley, of St. Austell; in this there was an erratum: instead of "put this on a slow fire," it should read thus—"put on this a slow fire," presuming, we opine, that it should be covered with a clear fire.

**J. S. (Liskeard).**—A considerable portion of the letter is inadmissible, treating as it does on religious subjects; it is likewise a well-known fact, that numerous persons, with the greatest perseverance and best intentions, owing to fortuitous circumstances, sometimes fail in their attempts to progress through life. The miner, by all the discoveries of science, must reap a great benefit; and we regret to see our correspondent advancing the sweeping assertion, that nothing that has ever appeared in print has been of any benefit to the miner. Copper, although long discovered in Cornwall, was first practically applied by the learned and our miners more scientific knowledge, they would have discovered previously the quantity of silver discovered in the lead ores, which is of comparatively recent date. It is by no means to be inferred that the axiom is correct, that "a good bad makes a good captain;" unfortunately, too many instances have shown where a good property has been ruined by incompetent agents, and afterwards resumed and worked successfully by able men. Whatever Mr. Ennor's motives may have been, he has done good service to mining generally, and although his views may not always pass current, they are characterised by much practical sound sense, and he has this satisfaction, that several scientific as well as practical miners are of his opinion. Though there are changes perpetually going on in nature, many of the causes of which we are as yet ignorant of, there can be no question but research and science has solved many problems which have hitherto baffled practice; and it is to be hoped that as knowledge progresses, and education is more universally diffused, numberless truths, which are now partially obscured, will be brought to light.

**WHEAL TREWANE.**—Sir: Having observed the paragraph, in last week's Journal, congratulating the Wheal Prockter Company on having obtained an interest in Wheal Trewane sett, I beg, as the largest shareholder in Wheal Trewane, to assure you that it is unlikely that any such amalgamation can take place until the suit of "Mayhew v. Bennett and Others," now pending in the Court of Chancery, has been decided.—JAMES WALTER SMITH, *12, Old Jersey Chambers, March 3.*

**Mr. H. Guedalla, on the Practicality of a Mining Exchange.**—Mr. James Green, on the California Gold Companies.—Capt. Wm. Heath, on the Treatment of Ores for Gold.—"Justin," on Gold in England, and Berdan's Machine—shall appear in our next Journal.

We have also in type, a valuable paper by Mr. Joseph Holdsworth, on the Probable Extension of the Central British Coal Fields.

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# THE MINING JOURNAL

## Railway and Commercial Gazette.

LONDON, MARCH 4, 1854.

A return has been recently presented to Parliament, and printed by order of the House of Commons, containing, first, an account of the quantities of foreign iron imported and exported from the United Kingdom during the years 1851 and 1852, distinguishing the several sorts of iron, and the countries from which imported, and to which exported. Secondly, an account of British iron exported, including unwrought steel, during the same years, distinguishing the countries to which the same was exported. And thirdly, an account of the quantity of British hardware exported in the same years, distinguishing the countries to which exported, and the declared value thereof. Under the first head, of foreign iron imported, Sweden is, of course, the largest contributor, supplying—

		Tons cwt.s. qrs. lbs.						Tons cwt.s. qrs. lbs.			
Iron in bars, unwrought	1851	35,477	3	3	23	1852	31,105	1	3	23	
Iron bloom		366	14	3	14		490	4	1	27	
Steel, unwrought		985	16	0	1		483	11	0	14	
Iron and steel, wrought.—In 1851, 2365 <i>l</i> . 14 <i>s.</i> ; in 1852, 18 <i>l</i> . 1 <i>s.</i> 4 <i>d.</i>											

Iron and steel, wrought.—In 1851, 23,657. 14s.; in 1852, 184. 1s. 4d.

The iron trade with Russia would seem to be very limited, the only important article being—Iron, in bars unwrought, in 1851, 3974 tons 5 cwt. 3 qrs. 21 lbs., which was reduced, in 1852, to 1791 tons 10 cwt. 3 qrs. 3 lbs. Our import trade with France, although we are aware that returns under the head "declared value" are a very doubtful criterion, is far above that with any other country under that head. Iron and steel, wrought, being, in 1851, 23,364. 1s. 8d.; and in the year 1852 it fell to 19,860. 0s. 6d. We presume that under this head ornamental castings are included, the value of which is necessarily very capricious. The quantity of foreign iron exported from England appears trifling; only two serious items appear in the return.—To the British possessions in the East Indies, in 1851, 1001 tons 7 cwt. 2 qrs. 24 lbs. iron in bars unwrought, which had been increased, in 1852, to 2681 tons 19 cwt. 0 qrs. 2 lbs.

Our largest customers in British iron, including unwrought steel, under the principal heads, in those years, were as follows:—

	Pig-iron.	Bar-iron.	Pig-iron.	Bar-iron.
Prussia.....tons	16,780	4,905	16,793	13,519
Holland.....	22,596	8,039	23,117	7,324
France.....	12,051	554	20,195	425
Italy.....	9,485	23,232	7,929	27,379
British India.....	1,148	20,382	1,401	17,118
United States.....	23,117	48,691	12,992	51,979
	79,783	333,128	104,320	334,224

Our largest customers for British hardware, in declared value, would seem to be—

	1851.	1852.
Russia.....	£26,044	£71,429
Hanseatic Towns.....	168,271	176,604
Italy.....	66,589	59,173
Turkey.....	35,799	23,545
Western coast of Africa.....	33,445	29,768
British possessions in South Africa.....	29,395	47,970
British India.....	106,216	98,488
Australia.....	139,115	102,413
British America.....	181,085	148,357
Foreign West Indies.....	91,009	104,161
United States.....	1,090,467	958,492
Brazil.....	108,406	104,129
Buenos Ayres.....	45,275	22,705
Chile.....	66,581	48,212
Peru.....	41,646	39,498

It is, perhaps, not a little remarkable that while our general trade has been increasing there has been a decrease in our hardware exports, the quantity in 1851 being 27,624 tons 17 cwt., and the declared value £2,827,011; while in 1852 the former fell to 25,289 tons 11 cwt., and the declared value to £2,691,697.

The inquest on the 89 persons, for such seems to be now the ascertained number who perished in the late frightful colliery explosion at the ARLEY MINE of the INCE HALL COAL and CANNEL COMPANY, near Wigan, was resumed on Tuesday, before Mr. DUFFIELD, one of the county coroners, in the presence of Mr. DICKINSON, on behalf of HER MAJESTY'S Inspectors of Mines for the district. Some preliminary evidence was given as to the regulations for working the collieries, and as to the quantity of air which was admitted into them under the system of ventilation recently employed. The evidence was, in a great measure, anticipated by us in our last Journal; but the immediate cause of the catastrophe still appears involved in mystery. It would seem, from the evidence of JOSIAH DONSON, the head overlooker, that the explosion is supposed to have been caused by a shot fired by a man of the name of BROWN, whose duty it was to have fired it; and it seems that great confidence was reposed in him, that he was a good fireman, and considered the best man in that district. His body was found much damaged, covered with dust and rubbish, blown out of the workings, his lamp near him, also damaged, but the screw all right. The most probable surmise seems to be, that the explosion was occasioned by the fuse of the shot ignited by BROWN, who, it is believed, would never have lighted it, without trying the place for gas; and that there had been a sudden burst of gas, after the fuse had been lighted, and after BROWN and PILKINGTON, the miner who had made the cut, had both left the spot to protect themselves from the consequences of the blast. The roof appeared to have been greatly shaken by the effects of the explosion; and the witness stated, that if it did not originate in the way he had suggested, he could not offer any other explanation. We may infer, from the tenor of some questions put by Mr. DICKINSON to the witness, in cross-examination, that he did not altogether approve of the system of working adopted at the colliery; and the witness used the word "treacherous," as to the mine, which he explained by saying that gas came off from the new workings in a way that he considered treacherous. The inquest was adjourned without any evidence apparently calculated to lead to a decided opinion, and was resumed on Thursday. A warm discussion appears to have then taken place between Mr. DICKINSON, the Government Inspector, and Mr. J. D. DARLINGTON, the general manager of the works, who is, we believe, also interested in the mine. Mr. DARLINGTON, in his evidence, intimated an opinion that a fall of rock, which caused a sudden explosion of gas, was the most probable cause of the catastrophe. Mr. DICKINSON strictly examined Mr. DARLINGTON, in order to show that the mine had not been worked according to the most approved system, which was, to drive out the levels to their extremities, and then to work back to the pillars. Mr. DARLINGTON, on the other hand, insisted that it was impossible, from the ownership of the property in the district, to adopt that system. The Inspector then admitted that he believed every recommendation suggested, when the last explosion took place, had been carried out, with the exception of the proposed method of working the levels, and he concluded by declaring his opinion that if the system lately pursued is continued, a similar catastrophe will again take place. This is a most startling announcement, and at once brings the Government Inspector in immediate conflict with the proprietors. Mr. DARLINGTON acknowledged that extraordinary measures must now be adopted, and with that view the directors had called in engineers to consult with them as to the most advisable course to be pursued.

At the conclusion of Mr. DARLINGTON'S evidence the enquiry was again adjourned, and we are told that, although the men had resumed work in the Arley Mine, no person could be induced to work in that part where the explosion had occurred.

A question as to the validity of iron scrip notes has lately arisen in the Court of Session in Scotland, in the case of BOVILL, assignee of BALLS and SON, of London, v. WILLIAM DIXON, an ironmaster in Glasgow. It was conceded in the discussion that it was the usage of the trade to issue iron scrip notes similar to those in question, which were in the following form:—"Glasgow, 10th July, 1849: I will deliver 1000 tons No. 1 pig-iron, free on board, when required, after the 10th September next, to any party lodging this document with me. (B 161).—Signed, ——" The sales had been originally made to Messrs. SMITH and SONS, who subsequently failed, and bills had been passed which were dishonoured by them. They subsequently sold to BALLS and SON, and the bills passed by the latter had been duly retired, so that as between BALLS and SON and SMITH and SONS the price had been paid. Mr. DIXON resisted the delivery of the iron, and pleaded the following matters of defence:—"First, that the document constituting the iron scrip note not having been stamped, could not be received in evidence; secondly, that being in blank in the name of the party it was void by statute; and thirdly, that the original sale, not having been completed by the delivery of the iron the subject of it, that the defendant was entitled to retain until the price was paid.

The LORD ORDINARY ruled these several points in favour of the plaintiff, and decided—First, that the document in question did not require a stamp in order to transfer the right to the iron, but that the holder of it was entitled to require the fulfilment of the contract. Secondly, that the right to delivery arose to the plaintiff, who had given notice before, any right of retention had accrued to the defendant, as against SMITH and SONS, the original parties. And, finally, that the defendant could not now rely upon any right to retain against the plaintiff, arising out of the subsequent bankruptcy of SMITH and SONS. The full Court, in reviewing that decision, unanimously adhered to it, holding that upon the strict terms of the document the defendant had no right whatever of retention on account of any transactions between him and the original buyers. The document in question absolved the holder from the necessity of making enquiry as to the nature of the original contract, and there was a marked distinction between it and a bill of lading, which was only transferable by endorsement. The LORD ORDINARY'S judgment was, with a slight exception, accordingly affirmed, but it appearing that an action for damages for loss sustained by the non-delivery of the iron was still pending, that portion of the case still remains to be disposed of.

Respecting the DARHEN CANAL project, we have this week a further confirmation of our view that Dr. CULLEN and Mr. GIBBONNE both failed to show that they had crossed the Isthmus from Escocots to the Savanas. Mr. ROBERT NELSON, who accompanied the expedition from the *Virago*, noticed in our Journal of the 18th Feb., writing from Chapigana, on the Tuyra River (Jan. 9), gives an interesting account of the passage of the Isthmus, so far as the examination extended, concluding with the following significant observation:—"I may remark that although we had Dr. CULLEN and Mr. GIBBONNE'S reports and maps along with us, they were of very little service, as we found them to deviate entirely from our experience." And again, "I am perfectly satisfied that this is the first party that has crossed the Isthmus of Darien."

We have, consequently, now to treat, not of the vague and contradictory statements which it was desirable to dispose of as to previous investigations, but of the apparently honest but incomplete narrative of Mr. NELSON. We regret that we cannot at present regard the result of Capt. PREVOST'S labours in the same satisfactory light in which the party themselves place it, as the solution of the important question at issue, because they left their work unfinished precisely at the point where further progress was absolutely essential. We never doubted that between the Savanas and the Northern Cordillera there would be found a valley which travellers "dense forests, scarcely able to see 20 yards ahead at any time," would describe as a "fine, fertile, well-watered and nearly level plain. Indeed, DAMPIER and WAFER, the ancient "hand-books" of that country, so describe it. But what we still hesitate to admit is, that such a valley or plain, traced from the southern shore to the Cordillera, will lead to a practicable passage, a doubt which must continue in our minds until the *Andes* left by this party is filled up by the surveyors from the northern side, of whose operations we may soon expect details.

His hesitation, however, of Capt. PREVOST to proceed to the extremity of his task is by no means to be lamented, as his timely retreat, after such a bold, and we shall add, most adventurous and gallant advance, probably saved the whole of those noble fellows from annihilation. The abandoned huts, the noises in the woods ceasing at the approach of our explorers, the habits and strategy of the Indians, the slaughter of the isolated guard of four men, must convince every one who knows the native character that, however unprepared may have been the chiefs for such a daring invasion of their territory from the direction first taken, Capt. PREVOST'S expedition was, beyond doubt, under surveillance, and we must consider it as a merciful interposition that other detachments were not cut off. The Indians, as we think, deeming it inevitable that the intruders would proceed across the Cordillera, satisfied themselves for the time with the four victims left to their fate (which, by the flight from their post, was evidently not the result of incautiousness, as supposed), and then, concentrating their forces, awaited in advance of our explorers, to entrap them with greater impunity. Whatever may have been the cause of safety, we rejoice at it; but the importance of the retrograde movement was evidently urgent in their own minds, as the distance which before took them some 15 days to achieve—that is to say, 25 miles—occupied in retreat but 28 hours.

On the 19th of Dec. Capt. PREVOST, with Mr. KENNISH, an American engineer, accompanied by Lieutenants MOORE and GORDON, the master, Mr. INSKIP, Mr. ROSS, assistant surgeon, with Mr. NELSON, eight seamen and marine artificers, seven natives from Chipigana, and an interpreter, besides a reserve force under a midshipman (HORNBY), left the *Virago* and rowed up the Savanas 22 miles—two miles above Principe, beyond which point their boats could not pass. Here they built a *ranchero*, or station (No. 1), leaving the reserve force and depot of their little supply. On the 20th they started for their overland work, guided by compasses, and every night a *ranchero* was built: 10 days were thus occupied for some 22 miles to *ranchero* No. 10, and there at last they arrived at a river which puzzled them completely, not being marked on any of their maps. A small detachment was sent down the stream; providentially returning, but without effecting their object of ascertaining from the Indians the name of the river, and its distance from the Atlantic. At the same time Capt. PREVOST and Mr. KENNISH continued with five others in the direction of their course for about three miles, and arrived at another similar river, equally embarrassing to their intelligence. They found these rivers flowing through jagged, leaf-shaped mountains, from the apex of one of which, estimated at about 700 ft. of elevation, they imagined that they could discern, through one of the gorges of the Cordillera, the Atlantic, distant about six or seven miles.

In no respect doubting the fidelity of assertion on this point, we may be allowed to remain sceptic, until more positive information is obtained for though a sailor ought to know blue water from a mountain mist, the vision in that climate is peculiarly liable to other honest deceptions. From the supposed discovery of the ocean, they return to No. 10, almost as soon as the other detachment after its fruitless search; a council of war is held, the result of which is, that lack of provender compels them to send back some of the party to the boats; while the four unfortunate guards, chosen by lot, are left at this station with the spare provisions and superfluous things of those advancing, not as a depot for others. The rest, in number 14, including the commander and Mr. KENNISH, resume their previous track.

"And soon arrived at the second river discovered by the commander and Mr. KENNISH the day before, which was traced by the whole party for more than 14 miles walking in the water, the river being low. On the banks of this river they discovered two Indian huts, apparently lately inhabited, and also heard some chopping in the woods, which ceased on their approach, and was heard no more. Here the river deviated from their course, and they then ascended a mountain of considerable height, at the bottom of which they arrived at another river of considerable magnitude, flowing north, which was the first river they encountered flowing in that direction, and consequently concluded that it emptied into the Atlantic. They made *ranchero* No. 11, and here rested for the night. On the 3d of January they proceeded on their course until they arrived at a high bluff, where they obtained a clear view of the savanas as far as the eye could reach over the ground they had come, and also to the north-east, where a deep gap appeared to be in the Cordillera, through which they concluded the river they had passed flowed; but they could not obtain a sight of the Atlantic, the gap being shut up by a high mountain before them on the right. Descending this bluff in search of the river they had passed, with the object of following it to its mouth through the gap in the Cordillera, which appeared to them to be at the distance of from three to four miles, they fell in with another river flowing north-east, but could not find the river they were in search of. Here they made *ranchero* No. 12, and rested. On the morning of the 4th they retraced their steps to where they saw the first river flowing to the north, which they supposed to be the Caledonia. Here all the officers, with the exception of the assistant-surgeon, proposed to trace the river.



A peculiar danger from the zeal of the shareholders and managers v be in the investment of large sums in machinery, which in many cases v be unadapted to the treatment of the ores, and prove a dead loss. H as in California, when a man finds gold on his property he sends off gold machinery to work it, on some ill-defined notion that gold machi is self-efficient everywhere; much in the same way as an ignorant v sends off to a chemist's for some doctor's stuff, without reference to particular ailment. In San Francisco and Melbourne a marked ite the quantity of useless machinery brought out and abandoned; and w I say useless and worthless, I speak even of machinery which has p very valuable elsewhere. Proprietors very naturally send to New Y or London for the best machinery for reducing gold ores, and when it rives and is tried, they are obliged to give it up, or return it on the h of the consignees. A very little consideration will explain this, if, ind it requires an explanation to the practical miner. Each ore require own mode of treatment; differing, perhaps, but slightly, but still c nting a distinct treatment. Such is the case with the copper and tin of the Duchy, in which the Cornishman by long experience acquir special proficiency. Such is the case with the Mexican or the Chilian regard to silver, and his process, rude though it may be, is adapted to successful achievement of the required result. Take up any com treatise on gold working, and it will be found that there are peculiar cesses and machinery used in Hungary, Savoy, Russia, or the Brazils, each place holds to its own system. Gold ores very widely diffused great variety, of great deliancy, and it may be said of very minute centage, require a special treatment, as the very process adopted, so from obtaining the gold, may be the means of producing an antagon combination. Hence it is that gold ores present such anomalous res in their practical reduction; in very many cases half, or even two-th or three-fourths, of the metal being left unreduced, or wasted.

\* "On the Application of Cast and Wrought-Iron for Building Purposes," William Fairbairn, C.E., F.R.S., &c.



[FROM A CORRESPONDENT.]

We are, however, justified in confiding in the investigations of that very acute and intelligent observer, and we have his authority that many spots exist in the British Isles which have as yet escaped the examinations of former days, and remain amply to repay the industry and perseverance of future gold seekers. Modern science and improved machinery furnish peculiar advantages for future researches, which were denied to our ancestors; these remain to be applied to matrices hitherto untouched; and analogy points out to us the quartz veins with the backs of copper and other lodes, as peculiarly and properly suited to such investigations. In the opinion of Mr. Calvert, looking to economic circumstances and calculations, a produce of 5 dwts. would be sufficient to pay in England, under some circumstances, provided the ore be brought to grass, as in many instances can be done at 2s. 6d. per ton; while very many times that amount would be required to balance or outweigh the inconvenience, difficulty, loss of time, and necessary expense of working the matrix in Australia. We are also fairly reminded by Mr. Calvert that the very rich masses of gold quartz found in Australia, which, while they dazzle, also tend to dishearten home efforts, are mostly surface incrustations; and he has repeatedly declared that, with a view to steady and legitimate profits, he would prefer suriferous ores of a low average, from a firm and well-justified conviction that the quantity and extent would be much greater, the division of labour and profit more distributed and equalised, and the averages more uniform.

## CRICKMER v. BUGGINS.

William Thomas : I am landlord of the Mackworth Arms Hotel, Swansea. I know the defendant. I was the attesting witness of the signature of the defendant to the notice of the transfer to him, and his acceptance of shares in the Wheal Sophia Mine dated 9th Dec., 1950. I have known the defendant for several years. I was living

**ACTION AGAINST SHAREHOLDERS FOR MERCHANTS' BILL.**  
COURT OF COMMON PLEAS, FEB. 27.

### IMPORTANT DECISION IN FAVOUR OF IRONFOUNDERS.

**DIED.**—On Saturday last, Wm. Daubuz, Esq., the head of the great Tipton Smelting Company of Wm. Daubuz and Co.

[FROM OUR CORRESPONDENT IN BIRMINGHAM.]

The principal feature of the week, in connection with our manufactures, is the cessation into which the gun trade has been thrown by the announcement of the Government that the new Ordnance gun trade from Birmingham will be rendered needless to say, that if this arrangement is carried out it will be attended with very serious consequences to this town. Many manufacturers have expended large sums of money in erecting workshops for carrying on the trade; their machinery and tools are of the best description, and the most skilful hands have been secured, all of whom are now thoroughly identified with the place, and the transfer of the trade must be attended with little short of ruinous consequences to many. The leading manufacturers are now in London, placing their claims before the authorities; and the movers are moving here in all directions to secure every possible influence that can be brought to bear in support of their interest; and so strong is the general feeling, that a request for a suspension of the new Ordnance gun trade, for the purpose of enabling the trade to hold, will no doubt assume the character of an important Birmingham demonstration.

The foreign export trade of the week has been considerable, and large consignments of general hardware have been made to Australia, notwithstanding the recent over-stocks in that colony. The general impression is, that the diggings can pay for the cost of the goods, and that the large profits compensate for long credit. For the American market large orders for general hardware are being prepared, and our summer prospects are cheerful.

The arrival of this noble ship appears, at last, to have solved the question of practicability of establishing steam communication with our Australian colonies, supporting, and commercially remunerative; for without these latter the essence of permanency are wanting. The time is past when bad management can any longer be bolstered up by enormous subsidies from the public purse; fresh Post Office contracts, in that sense, are virtually abolished; and the promoters of Australian steam communication have only to look to obtaining the greatest amount of traffic, and running their vessels at the lowest cost. These objects have been kept in view, and successfully attained, during the late voyage of the *Great Britain*. Before leaving England in August last, the question of fuel had been one of anxious consideration; almost all the vessels that had sailed to Australia and back, having reached nearly, if not almost, exhausted. One of the recommendations of the Committee of Enquiry, that of F. P. Smith, Esq. (of Messrs. Penn's), who had seen the effective means, by which the Americans used their anthracite on board their ocean steamers, and also subsequently witnessed some satisfactory trials on board her Majesty's ships, with Welsh anthracite, the owners determined mainly to use this fuel, and 160 tons of it were put on board from the pits of Messrs. Myers and Kirkwood, a considerable supply being also sent to the Falkland Islands for her return voyage. The result amply justified the advice given. The times of her outward and homeward runs were well known, the homeward being unusually unpropitious as to winds. These runs on 160 tons of fuel were 25 days to Australia, in 1872, was, first, various courses, 50, 55, and even 60, knots, per hour, with all boilers on; under such circumstances, on this voyage, she consumed from 26 to 33 cwt. per hour of anthracite per furnace had been somewhat shortened. It was, however, very rarely less than under more than half her boilers—i. e., three; and it was found that with these, a consumption of 15 to 16 cwt. of anthracite per hour, or 18 to 20 tons per diem, could obtain a regular steam speed of  $7\frac{1}{2}$  knots; whilst, with all boilers going, double the consumption of coal, she could not average above 9 knots—so costly, the vessel of her size, is the gain of the last knot or two. So dire had been the prospect of the fuel, that the fact that the vessel could not burn every fire-brick of coal she could carry, from the strong heat of the anthracite, that the fact that fuel was shaken in the minds of the owners; the result, however, has been, far less injury has been done than with ordinary coals; the boilers being in no way affected; and of the whole complement of bars, only four touched by fire, the having their edges sharp, as if only a few days in use. The steam-jets, as commanded by Prof. Frankland, and as applied by Col. Coffin to Her Majesty's ships, were used in the *Great Britain* with beneficial effect. Thus the failure, as to the inevitable destruction of bars by anthracite, is practically disproved in a voyage of 25 days, and the result is, that the result being so satisfactory, she coals out again with this fuel—takes less than before, and the result is, that the vessel saves time and dirt in re-coaling, and confidently anticipates making the voyage in 60 days. The absence of dust, smoke, and blacks, whilst this fuel was in use, particularly commented on by some of the passengers in letters to their friends home; the officers and crew were equally pleased; the stokers do their work with comfort, instead of being (as a passenger long accustomed to various coals states) the case on his homeward voyage in the *Adelaide* so beaten in the tropics, as to require some of the crew to assist in the stoke-hole. It was chiefly the cleanliness induced by the use of the *Victoria* and *Albert* on the day of the voyage, and it will, in all probability, be the case in the future in her Majesty's new yacht. The way being thus shown to an economical and rapid mode of communication with Australia, report, it is believed, says truly, that an additional number of steamers, in conjunction with the *Great Britain*, are to form a regular line between Australia and Liverpool, to be worked on the same economical plan. To the remote districts of South Wales these events are of great importance. The spinning harbour of Milford, one of the finest in the kingdom, is situated in the midst of anthracite coal field of great extent; the South Wales Railway, rapidly completed, will give it easy communication with all England; its vicinity to the Irish coast makes it the direct route to the Continent. These natural advantages, which the immediate vicinity of coal, will unquestionably, before long make a port of departure for many lines of ocean and channel steamers. Some engineers may say that heating and grate surface are requisite to use anthracite advantageously. The *Great Britain* has not shown this; but grant it to be so. Compare the heating surface given to steamers' boilers of the present day to what 10 years ago was thought sufficient; has not the tendency been continually to encrease? why, then, stumble at a few more, when the gain is more than double in tonnage for every foot given; and saving from buying such large quantities of coal at foreign stations, will pay for the extra cost of the grate surface. The engineer designing steamers to run to Milford, who should be so regardless of his passengers, as to neglect to adapt to use the coal worked so close to the port, would deservedly be cabled from their employ. The great and increasing demand for steam coal is such, that whatever tends to open new districts for this purpose effects a national good, and contributes to the national wealth.

**THE CALORIC SHIP.**—We learn from New York, that the *Ericsson* had made an experimental trip after the alterations in her machinery. The Tribune says:—"None beside Capt. Ericsson, the owners, and others immediately interested on board, but we learn that the performances of the ship were such as to afford the highest degree of satisfaction. The difficulty of making the engines air-tight has been the greatest on which could have been anticipated; yet this is being gradually overcome. The vessels on the trip made a turn on a very small pressure—say, one-fourth of the pressure of the cylinders (the exact amount of pressure is not known) at maximum pressure, which (in the case of the *Ericsson*) is 100 lbs. in intensity and which will be carried. Her cylinders are but 60 inches instead of 100, as in Collins steamers; and it is affirmed that, even with the pressure already attained, disposing she was provided with cylinders of the latter dimensions, she might have been driven with any desired speed. The greatest interest was manifested on her being known that the *Ericsson* had gone down the Bay, and eager enquiry made as to the result. The quantity of fuel consumed on the trip was quite insignificant. A short time that has yet elapsed since the keel of the *Ericsson* was laid is not so long as necessary to build an ordinary first-class ocean steamer."



## THE METALLIFEROUS VEINS OR LODES OF DEVON AND CORNWALL, AND THE METHODS OF MINING THEM.

BY MR. GEORGE NEWWOOD, M.E.

(Continued from the Mining Journal of February 18.)

angular and interesting instances of the eccentric positions of lodes in their branches have occurred. In the Great Wheal Towan Mine, Cornwall, they had for years been following a string of quartz, accompanied by a small quantity of rich copper ore; the walls of this lode were used as to deter them from commencing operations on it for cross-cutting at length a man, to preserve his tobacco-pipe, made a small hole, which he placed it, when, to his great surprise, a quantity of water black colour issued, which he tried by the usual miner's test—viz., dipping his fingers in the substance and applying them to his candle, the colour gave unmistakable indications of copper. This fortunate discovery laid the foundation of two of the largest fortunes Cornwall has ever known; at that very time the proprietors had determined to stop the lode, having long worked it "Hoping against hope." It is said the lode cleared a guinea a minute for years, both night and day; the men were raised the ore to grass for 1d. in 17. At Levant, also, the lode followed a string of ore in a similar manner, when, by a cross-cut, discovered the long-sought-for wealth. This mine has returned enormous profits to the lucky adventurers, and is now profitably prosecuted to the great depth of 200 fathoms. At the adjoining mine, Botallack, they have during the last few months cut, at the depth of 185 fms., a rich vein of grey copper ore, 20 in. wide, that will yield upwards of 40 per cent. pure metal. These are by no means the deepest mines; but to show you the immense depths the lodes extend, I may mention that the Great Wheal Vor Tin Mine, Fowey Consols, Dolcoath, Cook's Kitchen, United Mines, the Great Consolidated Mines, and many others, have been worked to 300 fathoms, the veins affording metal the whole way down.

The difficulty of draining the water from, and the unwillingness of men to descend to their work, in such places, the water being in great quantity, and very hot, the air, also, being bad, greatly impedes the working of mines to such vast depths; and no wonder, for it takes a man three-quarters of an hour to descend, and an hour and a quarter to ascend perpendicular ladders; sometimes being obliged to carry tools and bags to the weight of 14 or 16 lbs.; this labour can only be undertaken by robust youth, and at high prices, so that if the mineral be not very valuable, it will not pay for working in such situations; but so strong a sentiment is the hope of gain, that despite the fatigue and loss of health, and even youths are found daring enough, to undertake the difficult and dangerous task.

Having thus given an idea of the lodes, or veins, in their lengths, widths, depths, and, I trust, sufficiently elucidated their nature, I shall proceed to explain the methods adopted to work them. Lodes are discovered in most cases by accident, or by searching cliffs, quarries, or deep workings, sometimes they are laid bare in water-courses, in others by the rains, after heavy rains and frosts, exuding at the surface, and throwing out a stain, of iron, of a peculiar nature. Others, again, are detected by springs of water flowing from them, and depositing a ferruginous substance as it flows along its channel; and not a few from the circumstance of the water being slightly heated.

The practice of divining by a rod of thorn or hazel was formerly much in vogue amongst the Cornish miners, and was called by them "dowsing," and was performed by old men (in whom the virtue was supposed to exist) as that of telling fortunes is confined to old women, holding a rod of the branches of one year's growth, in both hands, when, by a peculiar twist of the wrists, the rod assumes an upright position, like the letter A; the dowsen then walked slowly over the ground, and if he came over a lode, the sensitive dowsing-stick would instantly reverse its situation, and become like the letter V. This is now exploded by scientific miners, together with many other antiquated superstitions, but is still firmly believed in some districts, and within the last three weeks I have seen it used. We will suppose a lode to be discovered by some one or other of the above agencies, and I will direct your attention to the drawing, No. 1, an imaginary plan of a mine; No. 2, is a section of the same; and No. 3, is a transverse section of the same spot. The undulating line, marked green, is to show the surface of the land vertically, and a to be the position discovered by a pit sunk a few feet, and giving indications of a lode; by cutting across it in every way, you will ascertain the direction in which it runs by its walls; when another pit, called a costeaning, or rhode-pit, must be sunk at a little distance, as at n, and so again at o and p; when, having satisfied yourself that the lode is continuous and metalliferous, you will sink as low as the water will permit, to test its produce; this is generally only a work requiring a small expenditure of time and capital, water being very abundant in lodes—indeed, it is one of their leading features.

The next process is to make a cutting 6 feet high, by 3 feet wide, from the lowest part of the sett that is convenient to intersect the lode at r; when this is accomplished, the water will be drawn off, and operations may at once commence from this level to the surface. This cutting is called the adit level, from which all future depths are reckoned, as so many fathoms below the adit: its careful execution is of the utmost importance, as nearly all the water raised from the mine by subsequent operations have to be poured through this channel. This is a very costly and tedious affair, but one that cannot well be avoided. In some mines they by common consent allow each other the privilege of making cuts into their respective properties, when the adits become a kind of common sewer. One of these, the deep adit of Gwennap, as it is called, extends several miles, and drains the mines adjoining it at great depths.

As soon as the backs of the adits (i. e., the space between them and the surface) are exhausted, if they contain mineral which is worth raising, not often the case, the next process is to sink a shaft perpendicularly, to the lode at a depth, as at r, or on the underlie of the lode, as at u, to a certain distance, usually 10 fms., and then drive on the course of the lode, to raise the minerals therein contained; or make a cross-cut from the perpendicular shaft for the same purpose. It is necessary, after having driven a certain distance, for the sake of ventilation, that shafts, called air-shafts, should also be used for other purposes, should be sunk at v and w. The 10 fathom level, as this horizontal cutting is termed, will, of course, drain all the lode between it and the adit level, when the miners will commence stopping the backs—that is, to work upwards in such places as they find the lode productive, letting the metal they break from it fall into the level, when they convey it to the shafts, to assist their convenience, for being brought to the surface. They then begin to sink again, as before, from the 10 fms. level to the 20 fms., and proceed in precisely the same manner at every 10 fathoms; thus, it is obvious, that the more levels are driven, the more men can be employed raising the ores, and the mine sooner brought into a dividend state.

If more than one lode exist, and it be not too distant, a cross-cut must be made from these levels to drain the water from them into the sump, or bottom of the engine-shaft, which is generally placed on the principal, or master lode, and is the deepest part of the mine. Proceedings then take place on these lodes precisely as on the principal. To construct a shaft from the surface to intersect one of these levels at a great depth is a work of no small difficulty; it is accomplished by the aid of a miner's compass, an adaptation of the mariner's compass. To effect this properly requires very nice calculation, and long experience; for they not unfrequently commence at several levels at one and the same time; and as cutting such excavations is a very expensive matter, the slightest error may entail a severe loss. To such amazing perfection do managers, or owners (as is the complimentary title), arrive, that few causes of complaint on this score arise. A few years since, at the Great Consolidated mine, they sunk a shaft from the surface to 190 fathoms; although commenced at several places at once, not one of them holed a yard out of the perpendicular. This was reckoned a very able and extraordinary feat of mining engineering, for which the captains and agents were highly commended by the proprietors and the public, as, indeed, they deserved to be, such a shaft never having been constructed in so short a period as seven years, or to such a tremendous depth at one time.

It must be evident that these mighty works are attended by enormous expenses, and are of very tedious construction; hence the abandonment of any schemes that have exhausted the purses and patience of the first explorers—nay, even of the second and third series of adventurers. Not infrequently, after a mine has yielded immense profits to one set of adventurers, the call of a few pounds per share has determined them to discontinue the work: a few weeks or months have seen another party of speculators reaping a rich reward for their outlay. A striking instance of this kind has lately occurred in the United Mines, Gwennap, where the lodes that had worked profitably for many years were apparently ex-

hausted, the shares actually sold for the mere value of the machinery and materials; when, in a few weeks, in consequence of a discovery in one of the lower levels, the shares rose to 420s., and are now paying handsome dividends. [To be concluded in next week's Mining Journal.]

## GOLD IN ENGLAND—ITS UNEQUAL DISTRIBUTION.

From the City Article of the Times of Monday we extract the following remarks, relative to alleged discrepancies between the results of assays and those given by trials on a large scale with Berdan's machine:—

"The annexed statement has been furnished of some curious discrepancies between chemical analyses of ore and the results reported by Berdan's machine:—The South Devon Mining Company, situated on the banks of the Tamar, have made a very careful investigation of their lodes and cross-courses, with a view to ascertain the presence of the precious metals, in consequence of the large return of gold made by Berdan's machine. In every case analyses showed an amount of the precious metal very widely different from that returned by Berdan; but it is singular that the relative quantity was very similar. By Berdan's machine an amount of gold is shown which would yield an enormous profit, while the amount by analysis in no case would pay for working. The general results obtained are very curious; for, as a rule, gold was most largely found in the deepest parts of the mine; and, although a stream was diverted, no gold was discovered in grains, but the micaceous gravel contained a small quantity, free from silver. One lode alone contained silver and no gold; but in 12 cases both gold and silver were found. More gold was found in the lodes in the clay-slate than in lodes in the granite; and the walls of the lode, where the clay-slate was mineralised and became ferruginous, also contained both gold and silver. These experiments manifestly show a very extensive distribution of the precious metals, but no light has been thrown upon the extraordinary discrepancy between the chemical and mechanical process. One yields upwards of 4 ozs. to the ton, operating upon 70 lbs.; the other, by operating upon a few hundred grains, only shows 2 dwts. to the ton. With such facts before us, it is wise for the public to pause before they estimate the value of the gold in England till the discrepancy of these reports is satisfactorily accounted for."

The discrepancy alluded to in this report has occurred so often, and in so many different hands, that it is quite certain it must arise from some cause other than any control which the parties making the trials may be supposed to exercise over the result. In looking over the *Report of the Fore and Aft*, published in the Mining Journal of America some six months ago, we find a report of an experiment by Dr. J. B. Chilton, one of the most eminent analytical chemists of America, which is so similar to the case stated in the Times that we give it entire:—

"Berdan's Crushing and Amalgamating Machine.—I give below the result of an experiment made with Berdan's crushing and amalgamating machine, at the Novelty Works, July 6, 1853:—The ore operated on was from Fluvanna county, Va. It consisted of a laminated variety of gold-bearing quartz. By examining it with the naked eye, scarcely a particle of gold could be observed, but on examining a number of pieces with a pocket lens, some few particles were found. 317 lbs. of the above ore were first partially crushed by passing it through a pair of rollers; 20 lbs. of pure mercury were then introduced into the Berdan amalgamator, and after the pan was put in motion, the crushed ore was added at intervals. At the expiration of 20 minutes the whole had been put in. The waste ore, as it passed from the Berdan machine, was received into one of Buffum's small amalgamators, containing 21 lbs. of pure mercury. This small amalgamator was kept in motion by a moving band from the engine; the apparatus was kept in action for half an hour after all the ore had been added. This was for the purpose of clearing it as much as possible from the waste or tailings. During the operation of the machine, the tailings which passed from the second or small amalgamator were collected. About a bushel was thus obtained. The mercury from the two amalgamators was collected together, weighed 40 lbs. 9 ozs., having lost 17 ozs. It was then allowed to stand for 24 hours, when a small portion of amalgam was obtained. The strained mercury was then distilled from an iron retort, and the resulting gold, together with the amalgam, obtained by straining, was melted in a crucible with a little borax; it weighed 7 dwts. The waste sand or tailings, collected as described, was all carefully washed by the operation called panning, by which 4 ozs. of mercury were obtained; after distilling, it yielded 3½ grs. of gold. A sample of the 317 lbs. of ore, intended as an average of the whole, was reserved, and tried by chemical means in my laboratory. It yielded gold equivalent to 33 grs. to the 100 lbs., or 4 dwts. 5 grs. for 317 lbs. This discrepancy in the two results is easily accounted for, the mineral matter containing largely the gold of the disseminated in the rock; and hence the difficulty of getting a uniform sample.—JAMES R. CHILTON, M.D., Chemist."

Dr. Chilton, instead of discrediting either his own experiment or the assay, at once assigns as the reason for the discrepancy the unequal distribution of gold in the rock. But, to come nearer home; a short time ago Messrs. Johnson and Matthey made an experiment with Berdan's machine, in which they employed their own men, and their own mercury and ore; and yet they found the same discrepancy. By the report of that experiment, as in the *Mining Journal*, it appeared that the Wheal Exmouth and Adams United Mining Company, on the 16th Dec. last, caused 2 cwt. of gossan to be tried by Berdan's machine, and sent the same quantity to be assayed by Messrs. Johnson and Matthey, of Hatton Garden. The results being totally different, Mr. Johnson was induced to conduct an experiment with his own men and mercury by Berdan's machine, permission being readily granted for that purpose. On the 4th inst., Mr. Johnson, with two of his workmen, attended, and after having the machine carefully cleaned, put in each pan 17 lbs. of pure mercury, with 1 cwt. of gossan. The sample No. 1, said to be from the adit, produced 2 dwts. 4½ grs. = 1 oz. 0 dwts. 15 grs. to the ton; and No. 2, from the surface, 0.31 gr. of pure gold = 2½ grs. to the ton. The mercury used was assayed, in order to ascertain if any gold remained, when it was proved to hold equal to 4 grs. in each quantity used, making the total—No. 1 containing 1 oz. 2 dwts. 8½ grs.; and No. 2, 1 dw. 16½ grs. in the ton of 20 cwt. Mr. Johnson accounts for the discrepancy by supposing that some parts of the mineral matter contain larger proportions of gold than others.

Here, then, are three well-authenticated cases in which a result has been obtained by the machine more favourable to the ore than that given by assay, and no doubt, others of a similar character have occurred. A person unacquainted with the subject might at once conclude that the large experiments were not reliable, but a little consideration will at once show the injustice of such a conclusion. An assay is made upon a very small quantity of ore, and in order to give a trustworthy practical result, that small quantity must be an exact average sample of the ore. The chances of its being so are very slight indeed, and hence calculations based upon such a trial are just as apt to err in one direction as in another, for the sample may be either too rich or too poor. It is obvious that a trial of several cwt., or several tons, is much more likely to give a reliable average result than the assay of a few grains, and it is really not at all surprising that the results from the two processes should differ from each other, even very considerably. Dr. Chilton and Messrs. Johnson and Matthey both admit the unequal distribution of the precious metal in its ores to be a sufficient reason for a discrepancy.

It may, however, be said, that the results given above are all in favour of the machine as against the assay; but those who have watched the history of these experiments will not be induced to conclude, as it has been given in this *Journal*, will be remembered other cases in which the results by the machine fell below the assay, while in most cases where they were compared, the two agreed as nearly as could have been expected. It is, at least, satisfactory that everything relating to the experiments has been given to the public, whether favourable to the machine or not. Let us speak plainly on this subject.—The discrepancy alluded to must arise from one of two causes—either gold is so unequally disseminated in its ores as to render an assay in some cases fallacious, or the large experiments have been unwarrantably tampered with. We fancy that few will accuse Messrs. Johnson and Matthey of lending themselves to so nefarious a transaction, while nothing in the course of Mr. Berdan would warrant such a suspicion being cast upon him. And it is clearly not the interest of Mr. Berdan, nor that of any maker of gold-reducing machinery, to create expectations as to the yield of ores which the first machine put in operation at the mines must instantly disappoint and belie. Who, then, has an apparent interest in this short-lived deception? Those companies that have purchased machines after obtaining satisfactory results from previous trials, have given good evidence of the sincerity of their faith in the genuine character of their ores, as well as of the experiments; while those who, after repeated trials of a satisfactory character, are taking no measures to secure the wealth thus offered, but manifesting unusual activity in recommending the public to participate in their good fortune, by selling their shares, are exhibiting a magnanimity which may possibly lie at the foundation of this whole question.

We understand Berdan's machines have been sold to a company—the whole of the shares having been taken up amongst a few individuals, who intend erecting immediately extensive works on the banks of the Thames, sufficiently capacious to reduce ores in large quantities. A portion of the works are expected to be in operation within a fortnight. The machines at Windsor Iron-Works are now being taken down, and removed to the premises; consequently, the trials are suspended for a short time. At the beginning of the present year, several important experiments were made, one being upon 7 to 8 tons, which is reported to be very satisfactory. Considerable disappointment, however, arose through the sudden stoppage. The Marquitta Company was to have tried 3 cwt. of rich stuff; and the Drevateington Company had several tons to be experimented on; but these, with many others, were doomed to await the new arrangement. We believe Mr. Catty, the manager of the company, is making every exertion to get three or four machines to work with the least possible delay.

We shall publish next week an account of the experiments made up to the time of taking down the machine.

We have also received some experiments made by Mr. Perkes's machine. A sample from a private mine, sent by Mr. Hutton, of Moorgate-street, yielded at the rate of 24 ozs. 2 dwts. of fine gold to the ton of 20 cwt.; and from the Britannia Mine, 8 cwt. 3 grs. 7 lbs. of gossan, from different localities, yielded 1 oz. 6 dwts. 16 grs. = 3 ozs. 15 dwts. 13 grs. to the ton.

## GEOLOGY—ITS VALUE TO THE MINER.—Some months ago, in walking over a large tract of mineral set, in South Derbyshire, Prof. Ansted was led to remark that the result of scientific operations, energetically conducted, would inevitably carry out his remarks: the opinion expressed was not lost upon some of those to whom it was given, and after a few spirited operations had been made, rich deposits of lead ore have been laid open, that are exciting the wonder and admiration of the geological theories having led to such a speedy and practical development of the mineral resources of the district. The Professor's remarks on the want of enterprise in such a wide spread mineral district, where only superficial workings up to the present time have been made, have inspired the Calver South and Wren Park proprietors with unbounded confidence of success, and they are actively preparing for the spirit of working of their valuable property to its utmost limits.

COAL ON THE PACIFIC.—Mr. Benham, of San Francisco, who has been over in Washington territory, examining the coal mines, reports that in Bellingham Bay there is a mine of 6 ft. in depth, with a dip of 4 degrees. The vein is of solid coal, with the exception of two strata, of the other of clayed coal. These, it is thought, will disappear as the mines are sunk below. The vein juts upon the bay, running off from the shore in a north-easterly direction. The bed of the coal is 40 ft. above high-water mark. Preparations are being made to develop these mines at once: 100 tons of this coal, placed in the San Francisco market, commanded, it is said, within 10 s. of the highest market price. The mine is situated within a quarter of a mile of deep water, and one and a half day's sail of the outward mouth of the straits.

In the House of Commons, on Monday, a petition was presented by Mr. N. Kendall, from the Board of Guardians of the Liskeard Union, in Cornwall, praying that money payments to the lords of mines in the shape of dues, may be made liable to the poor rate.

## WEEKLY LIST OF NEW PATENTS.

## APPLICATIONS FOR PATENTS, AND PROTECTION ALLOWED.

H. Watson: Working brass and copper.—C. H. Collette: Reducing ore.—W. and J. Longmaid: Vegetable charcoal.—J. Boydell: Reverberatory furnaces.—B. W. Firth: Breasts, &c., for railway trains.—W. Neilson: Blowing engines.—J. W. Mosely: Uniting glass and argillaceous cylinders, &c.—A. Pope: Crushing, &c., quartz, &c.—G. W. Knocker: Rotatory motive power by water.—J. Perry: Drilling machine.—J. Ramsbottom: Railway hoist.—G. Tournay: Motive power.—D. and J. Brown: Axles.—W. Duck and W. Wilson: Gas heating apparatus.—J. Young: Gas making.—J. Rives: Railways.—H. Bridges: Buffers.—A. J. B. L. Marescau: Locomotive engines.—J. Getty: Plating iron vessels.—W. Macnab: Steam engine.—S. Perkes: Valve cocks.—J. Wilson: Axle boxes.—T. Summerfield: Chromatic glass and glass faced bricks.—J. Prichard: Screw propellers.

## WEEKLY LIST OF PATENTS SEALED.

A. A. de Reginald Hely, Cannon-row, Westminster—Improvements applicable to shades or chimneys for lamps, gas, and other burners.  
A. V. Newton, Chancery-lane—Improved construction of railroad carriage axles.  
R. Wagon, Newington Causeway—Improvements in portable forges.  
J. Smalley, Bishopsgate, Wigan, and W. Smirk, Ince—Improvement in railway carriage axles.  
P. A. de Comte de Fontaine-morcan, South-east, Finsbury—Improvements in lighting for consuming the carbon escaping combustion in ordinary flames.  
W. Nash, Burslem—Improved mode of manufacturing china and earthenware articles on the lathe.  
C. Bloomer, Gold's Hill, West Bromwich—Improvements in the manufacture of B. Burleigh, King's-cross—Improved railway crossings as adapted to the double-headed rail and the ordinary rail and chair.  
M. Fernandez de Castro, Madrid—Improved means of preventing accidents on T. Chambers, and J. Chambers, Thorncliffe Iron Works, near Sheffield—Improvements in kitchen sinks.  
A. E. L. Bellford, Castle-street, Holborn—Improvements in paddle-wheels for propelling machinery and apparatus for the manufacture of bricks and tiles.  
F. C. Calvert, Manchester—Improvements in the treatment of naphthas and other volatile hydro-carbons, and in the application of the same to various useful purposes.  
J. Cundy, Victoria-road Kensington—Improvements in gas stoves.  
E. W. Barrows, Pentonville—Improvements in the construction of cranes and other machines for raising heavy bodies.  
W. B. Johnson, Manchester—Improvements in steam-engines, and in apparatus.  
J. Nasmyth, Patricroft—Improvements in the pistons and piston rods of steam hammers and pile drivers, and in the parts in immediate connection therewith.  
Rev. W. R. Bowditch, Wakefield, Yorkshire—Improvements in the purification of gas, and in the application of the materials employed therein.

FORGING METALS.—Mr. R. Morrison, engineer, of Newcastle-upon-Tyne, has patented an apparatus for forging, shaping, and crushing iron and other materials, and for driving piles. These improvements are mainly carried into effect by substituting for the hammer-block, piston, and piston-rod of large hammers, a cylindrical bar of wrought-iron or other metal, to form the working hammer. On this bar the working piston, together with the guiding surfaces for the perpendicular movements, are either forged or cast solid, the bar itself being truly turned throughout its length. The steam cylinder is bolted to a pair of plate standards, stiffened at the back by strong ribs, and the piston bar works through upper and lower stuffing boxes in the cylinder, whilst it is guided by a T-head at its upper projecting end.

GLASS.—Mr. T. Y. Hall, coal-owner, of Newcastle-upon-Tyne, has patented some improvements in combining glass with other materials. The invention relates to a mode of increasing the durability of glass, without interfering to any great extent with its transparency, and consists in the combination with glass, either on the surface or internally, of transparent, or partially transparent metal, such as wire-gauze, perforated copper, platinum, talc, &c. This may be effected by fusing such metals, or other materials, with the glass, or by imbedding the other materials in the glass when in a plastic state, or in any other convenient method.

SAFETY-LAMPS.—Mr. Hall has also secured a patent for some improvements in safety-lamps, part or parts of such improvements being applicable to the consumption or prevention of smoke, and for the purposes of ventilation generally. In one of the inventor's arrangements, which sufficiently illustrates his invention, the chamber of the lamp is composed of disc glass for about three-fourths of its circumference, the other portion being composed of double wire-gauze, to the inside of which is attached a parabolic reflector, in conjunction with a plano-convex lens, either polygonal or not. The glass portion of the chamber is protected from injury by wire-gauze or talc, or the glass may be combined with metal, according to another invention, for which Mr. Hall has applied for letters patent.

LAMPS.—Mr. G. Deards, of Harlow, Essex, has patented some improvements in lamps, which relate to the application of spirit vapour-lamps to railways, and to those purposes generally where lamps are required to be moved through the air quickly; and the improvements consist of a tube which is perforated at its lower end, and into which the spirit is introduced, and which descends into the vessel containing the spirit. In order to prevent the strong currents of air coming against the upper part of the tube where the vapour is generated, and near where the vapour is ignited, the tube passes through a closed chamber, the lower part of which covers the opening into the vessel containing the spirit.

RAILWAY CONSTRUCTION.—Mr. W. Baines, of Coverdale-terrace, near Birmingham, has patented an invention which has for its object a better construction of the permanent ways of railways. The rails are made with ribs or projections on their sides, and at right-angles, or nearly so, to the sides, to receive the fish-joints, by which the latter will be made to offer a better support. At the crossings, the rails which come together at an angle, or form the point, are made similar in form at their under to their upper surfaces, so that when worn on the latter they may be turned over, in order to fix the rails more securely in chairs than heretofore, and to allow of the rails being turned over. Each chair is made with a hollow jaw on one side, to receive a filling-piece, which will, when a rail is turned over, compensate for the deficient part of the rail which is worn away; the other jaw is also made hollow and inclined, to receive a thickness of wood or flexible material, between which and the rail adjusting metal wedges are used, which in one form are drawn towards each other, and in the other are made to rotate in the face of each other; the faces being made with steps and inclined, the more they are moved, the more strongly they are caused to hold. The chairs are fixed to the sleepers by clipping-blocks of wood, which, together with the chairs, are fixed by trenails passing into the sleepers.

NEW RAILWAY LOCOMOTIVE.—A French engineer, named Laudet, has just invented a new engine without tender, but itself carrying sufficient water and coal for long distances. The following are (according to the inventor) the advantages which this new system ensures:—1. A marked economy in the expense, in consequence of the suppression of the tender and of modifications in certain parts of the machinery.—2. A considerable acceleration in speed, without occasioning a proportionate consumption of fuel.—3. An economy of 40 per cent. in fuel.—4. Great facility in keeping the machinery in repair and in executing the manoeuvres required for the service.—And 5, the certainty of being able to avoid the grave accidents which so frequently arise. In addition, the inventor declares that a notable saving is to be found in his system, from the fact that in place of the present turning-tables, which cost from 9000l. to 10000l. each, smaller ones may be used, costing only 5000l. The locomotives of the new system, M. Laudet also states, can, from their peculiar form, get up steam far more rapidly than in the old system, and are thus less likely to meet with accidents.

RAILWAY CALLS.—The amount falling due in March is 446,047l., 202,000l. of which is for foreign lines. In March, last year, the calls were 692,647l.; and in March, 1852, 500,342l. The total calls for the first three months of 1854 amount to 3,353,473l. against 2,590,553l. in the corresponding three months of last year, and 1,632,140l. in 1852. This statement still shows an increased demand for money for railway purposes at home and abroad.

## Transactions on the Stock Exchange.

Shares.	Paid.	Last Prices.	Business Done.
1000000 Agna Pira .....	1	1/2	2
30000 Anglo-Australian Gold .....	1	1/2	2
100000 Anglo-Californian .....	1/2	1/2	2
10000 Australasian .....	2	1/2	2
20000 Australian .....	6	1/2	2 1/2
60000 Australian Cordillera .....	1	1/2	2
100000 Australian Freehold .....	1	1/2	2
50000 Ave Maria .....	1	1/2	2
72000 Baden, Grand Duchy of .....	1	1/2	2
200000 British Australian Gold .....	1	1/2	2
210000 Carsons Creek .....	1/2	1/2	2
80000 Clarendon Consols (Jamaica) .....	1/2	1/2	2
100000 Colonial Gold .....	1	1/2	2 1/2
70000 English and Australian Copper .....	5	1/2	2 1/2
100000 Great Nugget Vein .....	2	1/2	2
100000 Ditto, Registered .....	2	1/2	2
60000 Liberty .....	1	1/2	2
50000 London and Calcutta Gold Quarts .....	1	1/2	2
10000 Mariquita .....	1	1/2	2
60000 New Granada .....	1	1/2	2
200000 Nouveau Monde .....	1	1/2	2
100000 Port Phillip .....	1	1/2	2
10000 Pontgibaud Silver-lead .....	20	1/2	18
60000 Quartz Rock .....	1	1/2	1 1/2
50000 South Australian .....	1	1/2	2
70000 Waller .....	1	1/2	2
100000 West Granada .....	1	1/2	2
100000 West Mariposa .....	1	1/2	2
100000 Yuba .....	1	1/2	2

MINING SHARES FOR SALE.—The undersigned is able to TRANSACT BUSINESS in most of the successful and promising MINING UNDERTAKINGS, and has FOR SALE the following SHARES:—  
10 Devon Union, £2. 7 Wheel Zion, £39. 250 Hemerdon, 15s. 6d.  
200 Cornmartin, 7s. 200 W. L. Arthur, 6s. 6d. 250 Great Wheal Buller (Buckland), 3s.  
300 Exmoor, 20s. 200 W. L. Arthur, 6s. 6d. 240 Wheal Albert, 4s.  
300 North Higonson, 4s. 100 West Fanny, 2s. 6d. 100 South Fanny, 5s. 6d.  
200 Stridgate, £1. 100 Ivey Bridge, 6s. 6d. 30 Great Wh. Hugo, 15s. 6d.  
20 Langford, 14s. 6d. 10 Little Duke, 10s. 6d. Inney Consols, £3.  
50 Trenauit, 9s. 200 Stoke Clims West, £4.  
10 Stoke Climsland, £4 1/2.  
N.B. Low-priced shares in other mines of good promise, subject to small periodical calls, and impartial advice given as to their merits and value, as the undersigned pledges to restore all monies without deduction where no business is transacted, and to send back all transfers for which no market can be obtained.  
Letters addressed (post paid) to CHARLES GURNEY, mining commission agent, No. 4, Corbet-court, Gracechurch-street, London, will meet attention.

APPETITE AND DIGESTION IMPROVED, AND HEALTH PROMOTED, by the habitual use of that most agreeable condiment, LEA AND PERRINS' WORCESTERSHIRE SAUCE. Applicable to every variety of dish; and sold by the principal dealers universally.



Mr. John Dunning, the agent of the vendors, resides near the premises, and will range with the tenants for allowing the same to be inspected.—For further information and particulars, apply to Mr. Dunning, or the auctioneers, or to Mr. William Rowe, mining engineer, Wrexham; Mr. Finchett Maddock, solicitor, Chester; Messrs. Sharpe, Field, and Jackson, 41, Bedford-row, London; or to Messrs. Wagstaff, Manchester.



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## THE MINING SHARE LIST.

Shares.	Mines.	Paid.	Last Price.	Present.	Dividends per Share.	Last Paid.
5120	Alfred Consols (copper), Phillack	£22 10s	22 10s	22 10s	£10 5 0	0 16 - Jan., 1854.
8000	Altgrove Consols Slate Quarry	2	2	2 1 1/2	0 10 0	0 16 - Feb., 1854.
2000	Anglesea Coal Company	4	4	4	0 10 0	0 2 - Nov., 1852.
1624	Balleshadden (tin), St. Just	11 1/2	10	9	12 5 0	0 5 - Jan., 1854.
1000	Bar Holes, Wrotham, Salop	17 1/2	17	17	0 10 0	0 10 - April, 1853.
4000	Bedford United (copper), Tavistock	2 1/2	2 1/2	2 1/2	5 11 6	0 6 - Feb., 1854.
8000	Black Craig (lead), Kirkcudbrightshire	5	5	5	0 5 0	0 6 - July, 1853.
124	Boswell and Wheal Castle	—	20	20	5 0 0	5 0 - May, 1853.
200	Botallack (tin, copper), St. Just	9 1/2	8 1/2	8 1/2	27 5 0	7 10 - Feb., 1854.
1000	Bryntall, Llanidloes, Montgomeryshire	7	7	7	0 5 0	0 5 - June, 1851.
5000	Callington (lead, copper), Callington	77 1/2	77 1/2	77 1/2	1 8 0	0 4 - Sept., 1847.
1000	Carn Ilea (copper, tin), Illogan	15	15	15	22 5 0	0 0 - Nov., 1853.
256	Comford (copper), Gwynnapp, Cornwall	7 1/2	7 1/2	7 1/2	47 0 0	4 0 - Feb., 1854.
256	Condurow (copper, tin), Camborne	20	20	21 22	25 0 0	0 0 - Sept., 1853.
125	Cwmystwith (lead), Cardiganshire	60	150	140	367 0 0	9 0 - Jan., 1854.
1024	Devon Great Consols (copper), Tavistock	1	425	425 430	0 3 0	0 18 - Nov., 1853.
12000	Dhurroo (copper), Ireland	1	1 1/2	1 1/2	0 3 0	0 18 - Nov., 1853.
672	Ding-Dong (tin), Gwilt	1	1	1 1/2	55 0 0	— 1850.
179	Dolcoath (copper, tin), Camborne	237 1/2	100	100	873 4 0	3 0 - Feb., 1854.
2800	Drake Walls (tin, copper), Calstock	17 1/2	2 1/2	2 1/2	0 6 6	0 16 - April, 1853.
300	East Darren (lead), Cardiganshire	28	9 1/2	9 1/2	4 0 0	2 0 - Jan., 1853.
125	East Pool (tin, copper), Pool, Illogan	24 1/2	200	205	235 10 0	2 10 - Feb., 1854.
94	East Wheal Crofty (copper), Illogan	125	60	60	840 0 0	—
125	East Wheal Rose (silver-lead), Newlyn	50	140	140	2245 0 0	10 0 - March, 1852.
1024	East Wheal Margaret (tin, copper)	5 1/2	11	12 1/2	0 5 0	0 5 - Dec., 1853.
200	Evan Mining Company, Derbyshire	3 1/2	15	15	1 13 4	0 10 - Dec., 1853.
494	Fowey Consols (copper), Tywardreath	40	30	30	399 13 0	1 10 - Aug., 1850.
2246	Foxdale, Isle of Man	25	25	25	1 13 9	1 0 - Dec., 1853.
320	— Ditto — New Shares of 25s. each	10	10	10	0 8 0	0 8 - Dec., 1853.
3715	General Mining Co. for Ireland (cop. lead)	2 1/2	2 1/2	3	1 0 8	0 3 - June, 1850.
2000	Goginan (lead), Cardiganshire, Wales	12 1/2	16	12	22 0 0	5 0 - Sept., 1850.
1024	Gonamena (copper), St. Cleer	12 1/2	16	12	0 7 6	0 7 - Dec., 1852.
25000	Great Onslow Consols, Camelford	1 1/2	—	—	0 2 0	0 2 - Jan., 1852.
13750	Great Polgoth (tin), St. Austell	3 1/2	1 1/2	1 1/2	0 10 0	0 4 - Oct., 1852.
119	Great Work (tin), Gernoe	100	155	155	166 10 0	5 0 - Nov., 1853.
1024	Herdoford (lead), near Liskeard	8 1/2	9 1/2	8 1/2	2 5 0	0 7 - Dec., 1853.
1000	Holmbush (lead, copper), Callington	25	5	5	25 0 0	— Feb., 1844.
2000	Holyford (copper), near Tipperary	11	7	7	3 5 0	0 5 - Sept., 1852.
76	Jamaica (lead), Mold, Flintshire	37 1/2	6d.	20	380 0 0	5 0 - March, 1851.
20000	Kenmare and West of Ireland	1	—	—	0 1 6	0 16 - Sept., 1853.
786	Kirkcudbrightshire (lead), Kirkcudbright	0 1/2	5	5	1 10 0	0 5 - Sept., 1853.
20000	Lackmore (copper)	1	—	—	0 1 0	0 1 - July, 1853.
20	Laxey Mining Company, Isle of Man	100	1300	—	—	—
5000	Lewis (tin, copper), St. Erth	37 1/2	2 1/2	2 1/2	0 2 0	0 2 - Aug., 1851.
160	Levant (copper, tin), St. Just	2 1/2	9 1/2	9 1/2	1038 0 0	2 0 - April, 1853.
400	Lisburne (lead), Cardiganshire, Wales	15 1/2	21 1/2	21 1/2	196 5 0	5 0 - Nov., 1853.
6000	Marke Valley (copper), Caradon	47 1/2	6d.	5	0 2 6	0 2 - May, 1853.
3000	Mendip Hills (lead), Somerset	3 1/2	2 1/2	2 1/2	0 10 0	0 10 - May, 1853.
3000	Merilyn (lead), Flint	2 1/2	1	1 1/2	1 11 0	0 6 - June, 1853.
20000	Mining Co. of Ireland (copper, lead, coal)	7	13 1/2	16 1/2	0 2 6	0 10 - Jan., 1854.
1900	Nantlle Vale (slate), Llanfyllin	1	2	1 1/2	0 2 6	0 1 - Nov., 1853.
4700	Newmarket Mining Company, Co. Down	22 1/2	50	50	31 0 0	2 0 - Jan., 1854.
200	North Pool (copper, tin), Pool	10	200	192 1/2	303 0 0	4 0 - Feb., 1854.
140	North Rosebar (copper), Camborne	10	10	10	219 10 0	4 0 - Sept., 1853.
6000	North Wheal Basset (copper, tin), Illogan	10 1/2	8	8	2 16 0	0 5 - Jan., 1854.
6100	Par Consols (copper), St. Blazey	1 1/2	9	9	23 6 0	0 10 - July, 1853.
800	Peat United (lead), North Derbyshire	7 1/2	1 1/2	1 1/2	1 0 0	1 0 - June, 1853.
160	Perran St. George (cop. tin), Perranzabuloe	21 1/2	32 1/2	32 1/2	1 13 0	0 10 - Jan., 1851.
200	Phenix (copper, tin), Linkinghorne	30	750	750	240 0 0	10 0 - Dec., 1852.
1000	Polberro (tin), St. Agnes	13	13	13	4 5 0	1 0 - Dec., 1852.
360	Providence Mines (tin), Uny Lelant	20 1/2	17 1/2	17 1/2	20 14 6	0 10 - Feb., 1854.
1948	Rix Hill (tin), Tavistock	3 1/2	2	2	0 8 0	0 4 - Jan., 1853.
35200	Rorrington (lead), Snailbeach, Shrewsbury	1	—	—	0 2 2	0 2 - July, 1852.
256	South Caradon (copper), St. Cleer	2 1/2	37 1/2	308 325	302 0 0	12 0 - Feb., 1854.
9000	South Tamar (silver-lead), Beerferris	17 1/2	6d.	7 1/2	1 2 8	0 2 - Jan., 1851.
256	South Tolgus (copper), Redruth, Cornwall	16	135	130 135	69 0 0	4 0 - May, 1853.
148	South West France (copper), Illogan	37 1/2	260	275	232 5 0	4 0 - Jan., 1854.
1024	Spearhead Consols (tin), St. Just, Cornwall	1 1/2	8 1/2	8 1/2	0 17 6	0 7 - April, 1852.
1024	St. Aubyn and Gwilt (copper, tin), Breage	80	125	125	883 0 0	8 0 - Feb., 1854.
94	St. Ives Consols (tin), St. Ives	80	125	125	12 10 0	—
1000	Stray Park and Camborne Vein (copper)	10 1/2	12 1/2	12 1/2	4 11 0	2 0 - Feb., 1853.
9600	Tamar Consols (silver-lead), Beerlston	4 1/2	2	1 1/2	6 18 6	0 10 - Feb., 1853.
6000	Trethorpe (copper, tin), near Pool, Illogan	7	9 1/2	9 1/2	5 11 3	0 10 - Dec., 1853.
1024	Trehan (silver-lead), Menheniot	1 1/2	9 1/2	9 1/2	1 3 0	0 5 - Oct., 1847.
5000	Treigh Consols (copper), Redruth	6	2	2	1 15 0	1 0 - Feb., 1854.
572	Treyon Consols (tin), St. Ives	11 1/2	25	30	4680 15 0	— 1848.
96	Tresavean (copper), Gwynnapp, Cornwall	32 1/2	290	330	402 10 0	— April, 1851.
120	Trethellan (copper), Gwynnapp, Cornwall	7 1/2	16 1/2	13 1/2	299 10 0	2 0 - Jan., 1854.
4096	Trevelyan and Barter (copper), Gwynnapp	130	42	48	0 5 0	0 5 - Dec., 1853.
100	Trumpet Consols (tin), near Helston	25	50	50	43 0 0	5 0 - Feb., 1853.
400	United Mines (copper), Gwynnapp	40	135	135	47 5 0	2 0 - Feb., 1854.
1024	Wellington (copper, tin), Perranuthnoe	8 1/2	3	3	2 2 6	0 5 - March, 1851.
256	West Providence (copper), Liskeard	20	28	28	241 5 0	0 5 - Feb., 1854.
1024	West Wheal Darlington	17 1/2	18	35	22 0 0	2 0 - Jan., 1854.
1024	West Wheal Treasury (copper)	104 1/2	104	104	0 3 0	0 5 - Dec., 1853.
1258	Wheal Arthur (copper), Calstock	9	32	31	1 5 0	0 15 - Feb., 1854.
256	Wheal Basset (copper), Illogan	10 1/2	750	750	495 0 0	25 0 - Jan., 1854.
256	Wheal Brewer (copper), Gwynnapp	4	15	15	5 0 0	—
256	Wheal Buller (copper), Redruth	5	1100	1100	441 3 0	40 0 - Jan., 1854.
250	Wheal Clifford (copper), Gwynnapp	—	120	120	3 13 8	2 5 - March, 1853.
4280	Wheal Farnmouth and Adams United	47 1/2	188	188	0 17 6	0 6 - Feb., 1854.
100	Wheal Friendship (copper), Devon	70	9	9	0 10 0	0 0 - 1850.
124	Wheal Friendship (copper), Devon	105	105	105	2367 10 0	8 0 - Oct., 1853.
5000	Wheal Golden (sil. lead), Perranzabuloe	4	1 1/2	1 1/2	1 5 0	0 5 - Sept., 1852.
6000	Wheal James (iron, copper), Roeha	1	—	—	0 2 0	0 2 - May, 1853.
512	Wheal Jane (silver-lead), Kea	—	25	22 1/2	4 10 0	1 0 - Oct., 1853.
430	Wheal Lovel (tin), Wendron	33	35	35	26 0 0	2 0 - Feb., 1854.
112	Wheal Margaret (tin), Uny Lelant	79	125	120 125	202 0 0	6 0 - Nov., 1853.
512	Wheal Mary Ann (lead), Menheniot	5 1/2	36	36	26 15 0	2 0 - Dec., 1853.
80	Wheal Owles, St. Just, Cornwall	70	520	520	135 13 0	12 0 - Feb., 1854.
240	Wheal Reeth (tin), Uny Lelant	20 1/2	30	28 1/2	246 10 0	10 0 - Feb., 1854.
194	Wheal Seton (silver-lead), Camborne	107	30	30	41 10 0	2 0 - Jan., 1854.
530	Wheal Trevelyan (silver-lead), Gwilt	9 1/2	38	38 1/2	10 2 6	0 7 - Jan., 1854.
1024	Wheal Tremayne (tin, copper), Gwilt	9 1/2	38	38	23 6 0	1 12 - Feb., 1854.
5000	Wicklow (copper), Wicklow	5	58	58	0 1 0	0 1 - Oct., 1853.
15000	Wrygan (slate), Festiniog	1	1 1/2	1 1/2	—	—

## FOREIGN MINES.

Shares.	Mines.	Paid.	Last Price.	Present.	Dividends per Share.	Last Paid.
72000	Baden, Grand Duchy of	£14 1/2	—	—	4 5 0	0 15 - Nov., 1853.
10000	Brazilian Imperial (gold), Brazil	25	5 1/2	5 1/2	0 10 0	0 10 - Nov., 1852.
2464	Burra Burra (copper), South Australia	6	166	166	34 17 6	0 10 - Dec., 1844.
12000	Cobre Copper Company (copper), Cuba	40	44	43	140 0 0	5 0 - Dec., 1853.
10000	Copiapu Mining Company (copper), Chile	16	12	12	61 12 0	2 0 - Jan., 1854.
20000	General Min. Assoc. (iron, coal), Nova Scotia	20	15	15	3 18 0	0 5 - Oct., 1851.
10000	Linares (lead), Pozo Ancho, Spain	3	11 1/2	11 1/2	8 0 0	0 10 - June, 1853.
103815	Maricunga and New Granada	1	—	—	1 5 6	0 12 - Sept., 1853.
20000	Mexican and Central American (cop.), Mexico	1	—	—	0 2 0	0 1 - Dec., 1853.
32000	Obernitz (lead), Nassau	1	6 1/2	6 1/2	0 1 0	0 1 - June, 1853.
17000	Royal Santiago (copper), Cuba	13	4 1/2	3 1/2	33 4 0	1 5 - July, 1848.
104000	San Fernando (silver-lead), Linares	1	—	—	0 1 2	0 7 - Feb., 1854.
11000	St. John del Rey (gold), Brazil	15	29 1/2	29 1/2	23 17 6	2 0 - Nov., 1853.
43174	United Mexican (silver), Mexico	—	28 1/2	3 1/2	1 16 6	0 4 - Feb., 1853.

## NON-DIVIDEND FOREIGN MINES.

Shares.	Mines.	Paid.	Last Price.	Present.	Dividends per Share.	Last Paid.
75000	Adelaide Land and Gold Comp.	2	1 1/2	1 1/2	—	—
35000	Almaden (silver-lead), Spain	2	2 1/2	2 1/2	—	—
18000	Australian (cop.), S. Australia	6	2 1/2	2 1/2	—	—
6000	Barrage Range	1 1/2	—	—	—	—
75000	Brucutu (gold), Brazil	1 1/2	—	—	—	—
10000	Clarendon (copper), Jamaica	1 1/2	—	—	—	—
130000	Gladbach (zinc), Rhenish Prussia	1	—	—	—	—
12000	Jamaica (copper)	1	1 1/2	1 1/2	—	—
2309	Kinzigthal Min. Ass., Germany	4	1 1/2	1 1/2	—	—
24000	Liguanea & Gen. Min. Co. of J.	1	—	—	—	—
60000	Linares, New (lead, cop.), Spain	1	—	—	—	—
22000	Louise, Rhenish Prussia	1	1 1/2	1 1/2	—	—

## MINES WHICH HAVE SOLD OR.

Shares.	Mines.	Paid.	Last Price.	Present.	10000	Castell Slate Quarry	23	10	%
500	Albion (porcelain & bleach, clay)	5 1/2	—	5 1/2	200	Cefn Brynno (lead), Cardigansh.	33	—	—
3000	Altarnun Cons. (tin, cop.), Altar.	2	—	2	9000	Charlestown United, Cornwall.	£1 4	3	—
4000	Angusta Cons. (cop.) Bridestowe	1 1/2	—	1 1/2	1024	Clijah & Wentworth (tin, cop.)	7	8	—
940	Bainoon Cons. (tin), Uny Lelant	—	3 1/2	3	2000	Coed Mawr Pool (lead), Llannrwst	£6 8	10	—
4381	Balleshadden United	1	—	—	2510	Cook's Kitchen, Illogan	£15 18 9	2 1/2	2
3500	Beacon (tin), Roche	—	—	—	909	Cort Grange, Cardiganshire	10	8 1/2	—
408	Bel and Lannarh, Gwynnapp	11	10 1/2	11 1/2	1055	Cradock Moor (cop.), St. Cleer	£7 6s.	8	9
8000	Bicton Consols (lead), St. Ives	1 1/2	—	1 1/2	10090	Craigwynn (lead), Llanwrthwl	8 1/2	7	—
8000	Birch Tor and Vistler, Lydford	£3 6 1/2	—	—	512	Craigwynn (copper), Cornwall	13 1/2	35	—
2000	Bishopstone United	1	—	—	1500	Crookhaven (copper), Cork	10	14	—
4000	Ditto Glamorgan	—	—	—	6000	Crow Hill, Ireland	£1 3 6	1 1/2	—
30000	Bodmin United	13 1/2	1 1/2	1 1/2	8400	Crow Hill, St. Stephen's	1	2 1/2	—
144	Bodmin West Downs (tin, cop.)	1	—	—	9000	Cubert (silver-lead), Cornwall	2 1/2	—	%
120	Bollward and Nanpan (tin)	20	15	—	10000	Cwm Darren (lead), Cardigansh.	13s.	—	—
4096	Boringdon Consols, Plympton	3 1/2	2 1/2	2	10000	Cwmndyke Rock & Green Lake	3	1 1/2	—
240	Boscan (tin), St. Just	20 1/2	90	92 1/2	1000	Cwm Erfin (lead), Cardigansh.	8	4	—
2400	Boscan (tin), St. Just	1	—	—	2000	Cwynnedd Fawr, Llanegryn	—	1	—
8540	Bottle Hill (copper), Plympton	4	1 1/2	1	2500	Chace (lead), Brecon	£2 6	—	—
4000	Brish Gosh Slate Quarries	—	—	—	1000	Darren (sil-lead), Cardigansh.	4 1/2	3	2 1/2
4000	Broughford (lead), Wales	—	—	—	1400	Derwent (sil-lead), Durham	60	—	—
2900	Bryn-Arian (lead), Cardigansh.	3 1/2	—	—	8007	Devon and Courtenay (copper)	8	—	%
470	Budnick Consols (tin), Perran	2 1/2	7	8 1/2	1024	Devon & Cornwall United (cop.)	10 1/2	20	—
2000	Erwich (sil-lead), Cardiganshire	4	—	—	4000	Devon Burra Burra (copper)	1 1/2	8	10
5000	Caer-gwyno, Cardiganshire	8	—	—	1800	Devon Great Tinctor (tin)	1	1	—
1024	Caerphilly & Carllann, S. Wales	3	4	—	1800	Devon Kapunda (cop. & sil-lead)	£3 13	—	—
3000	Cally (cop.-lead), Kirkenabright	£1 2s.	3 1/2	3 1/2	9000	Drift Moor (tin), Saneered	1	1 1/2	—
4000	Calstock Consols (copper)	£3 1/2	4	—	1244	Duke of Cornwall, Lostwithiel	£7 14	—	—
6000	Calstock United (tin and cop.)	3 1/2	2	3 1/2	3000	Elwergo (tin), Cornwall	13 1/2	12	—
1000	Camborne Consols	2 1/2	19 1/2	—	235	Eaglebrook, Llanphangell	12 1/2	50	—
1024	Cardan Consols, St. Cleer	2 1/2	19 1/2	—	4096	East Alford Consols (lead, cop.)	1	—	%
2400	Carbans (tin, cop.), Crown	6 1/2	2	—	235	East Bassett (copper), Redruth	18	30	—
4000	Carngwynn (tin), St. Just	1 1/2	1 1/2	—	1500	East Birch Tor A (tin), Devon	3	3 1/2	—
1056	Carvannall (copper), Gwynnapp	£9 14 1/2	0 1/2	9	1000	East Birch Tor B	—	1 1/2	—
6096	Castle Dinas (tin), St. Columb	£1 12 1/2	—	—					